OCCASIONAL PAPER ▫ 29

COLLOQUIUM ON SUSTAINABLE HOUSING AND URBAN DEVELOPMENT: PAPERS PRESENTED (NOVEMBER 16, 1991)

Mary Ann Beavis, editor

INSTITUTE of URBAN STUDIES
UNIVERSITY of WINNIPEG

INSTITUTE of URBAN STUDIES

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For more information contact:

THE INSTITUTE OF URBAN STUDIES
University of Winnipeg
515 Portage Avenue
Winnipeg, Manitoba R3B 2E9
(204) 786-9409
Fax: (204) 786-1824

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edited by

Mary Ann Beavis

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INTRODUCTION

Mary Ann Beavis
Research Associate
Institute of Urban Studies

Since the late 1980s, the focus of much thinking on how to integrate environmental concern and economic growth in an ethical and equitable manner has shifted from a preoccupation with the "hinterland" to a human settlements perspective. On a cold Saturday morning in November, some fifty academics, urban professionals, government officials and students gathered to explore issues related to sustainable housing and urban development at a one-day colloquium hosted by the Institute of Urban Studies at The University of Winnipeg. The papers in this volume are based on the presentations delivered at the colloquium.

A full slate of six presentations, as well as a keynote address, was offered. The keynote speaker, Mr. Claude Bennett, Chairman of the Canada Mortgage and Housing Corporation (CMHC), announced that the Corporation would renew its funding commitment to the Institute of Urban Studies for 1991-92. David D'Amour, also from CMHC in Ottawa, presented the first paper of the day, entitled "The Origins of Sustainable Development and its Relationship to Housing and Community Planning," which introduced the background of the concept, and described some of CMHC's current research and initiatives towards sustainable housing for Canadians. D'Amour argued that the challenge of sustainable housing has economic, social and ecological implications, and that the prevailing planning paradigm must shift from technocentric (utilitarian, cost/benefit) decision-making to a more ecocentric approach.

In the second presentation, "The Politics of Sustainable Urban Development Policy in Canada" Phil Wichern of the Department of Political Studies, University of Manitoba, exposed the gap between what is being said and what is being done at the federal, provincial and municipal levels of government with regard to sustainable urban development. Wichern suggested that, with a few exceptions (e.g., the City of Ottawa's new official plan, based on sustainable development principles), governments' commitment to sustainable development is more political window-dressing than concrete policies and programs. William R. Code, Director of the Urban Development Program at the University of Western Ontario, read an equally provocative paper on "The Relativity of Sustainability." Code challenged the "received wisdom" that the residential intensification of downtown areas is the key to urban sustainability. Consumer preference for single-detached, low-density suburban housing is so entrenched, Code argued, that buyers would seek exurban housing rather than settle for expensive, inner-city dwellings. Code suggested the multi-nodal city, with better designed, multi-use suburbs, as an alternative to inner-city densification.

Julie Tasker-Brown, a planning consultant from Energy Pathways, Inc. (Ottawa), made a thorough, thoughtful and well researched presentation entitled "The Regulatory Framework and the Development of Sustainable Housing and Communities: Can We Achieve 'Sustainable Objectives' with Our Current Planning Regulations?" Tasker-Brown identified some key characteristics of sustainable communities, and proposed corresponding regulatory changes to bring about change in the direction of sustainability, e.g., increasing densities and compactness by relaxing zoning restrictions. CMHC's Affordability and Choice Today (A•C•T) program was offered as an example of community sustainable development policy in action. A•C•T funds housing demonstration projects, streamlining of development approval processes and performance evaluations of regulatory initiatives.

Ian MacBurnie of Atelier Arcadia in Montreal returned to the theme of the suburb in "Reconsidering the Dream: A Report on Research Undertaken regarding Contemporary Suburbia, with a View Towards a New Morphology." MacBurnie, an architect, is currently undertaking a CMHC-sponsored study of "suburbia," consisting of an historical review of the concept of the suburb, and an "alternative paradigm" to be tested on a greenfield site in Mississauga, Ontario. Although MacBurnie's paper shows limited familiarity with the vast literature now available on urban sustainablility (Maclaren, 1992, II; Beavis and Patterson, 1992)—or on sustainable development in general[1]—and his remarks on the ethical implications of sustainable development are somewhat obscure,[2] he refers to some interesting literature on the history of the suburb. Like Code, MacBurnie is more optimistic about the viability of the suburb than many advocates of sustainable urban development. MacBurnie suggests that suburbia, while flawed, can be fixed through design features such as gridded streets and lanes and mixed-density, multi-use blocks. Unfortunately, MacBurnie is unable to say whether these elements will render his "alternative paradigm" of suburbia sustainable or not.

The final presentation of the day was by Mark Roseland of UBC's Centre for Human Settlements. Roseland's topic was "Linking Affordable Housing and Environmental Protection: A New Framework for Sustainable Urban Development Policy." Roseland gave an incisive critique of the "Brundtland" version of sustainable development, and offered one example of how equity considerations can be integrated into urban development, the Community Land Trust, a model that has met with some success in U.S. communities. Roseland argues that truly sustainable development would reduce the need for environmental protection, rather than simply tacking on "environmental concerns" to economic activity. In urban settings, Community Land Trusts can help to achieve this objective by combatting speculation and gentrification, preserving and developing low- and moderate-income housing, and by maintaining urban open spaces. In rural communities, CLTs can provide

access to land and housing for low-income people, preserve farms and farmland, and enable sound, long-term land and forest management.

Each presentation was followed by a lively, half-hour discussion and debate between the presenters and other participants, thus making the event a genuine "colloquium" or "conversation." Some common themes that emerged were: the apparent tension between urban intensification and multi-nucleation; the need for regulatory change; and the necessity of real political commitment at all levels of government to sustainable development policies and programs. There was enough agreement among the presenters—as there is in the new, and extensive, literature on sustainable cities/communities—to suggest that consensus is emerging on sustainable urban development principles such as intensification and mixed/multi-uses in both urban and suburban settings, better use of existing built forms, affordable housing, enhanced use of public transit, and the fostering of community through better integration of housing, work and recreation—and government—in local areas. While isolated programs, policies and initiatives designed to implement some of these goals exist, real, on-the-ground progress towards integrating environment, equity and economics in Canadian communities is, as yet, piecemeal at best (Rees and Roseland, 1991; Tomalty and Hendler, 1991; Maclaren, 1992). As Wichern forcefully pointed out in his presentation, political action at all levels, from the local to the federal, must replace rhetorical commitment to sustainable development.

NOTES

1. Perhaps as a result, MacBurnie does not explain how the development of a "greenfield site" can be justified as environmentally sustainable.

2. MacBurnie seems to be unaware of the elementary philosophical distinction between moral and non-moral good, and of the important literature on the ethics of sustainable development (e.g., Daly and Cobb, 1989; Engel and Engel, 1990; Milbrath, 1989).

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KEYNOTE ADDRESS

Claude Bennett
Chairman
Canada Mortgage and Housing Corporation

The Institute of Urban Studies has chosen a topic which concerns many Canadians. People today realize that the quality of life in the city is changing—in a number of ways, not all for the better—and that we must do something about it. And more and more people are recognizing the achievements of the Institute of Urban Studies here at The University of Winnipeg. It has fostered research, discussion and debate about improving the lives of people in the inner city.

Over the years, the Canada Mortgage and Housing Corporation (CMHC) has established a close working relationship with the Institute. It is an excellent example of the partnership the Corporation has developed with private, public and non-profit institutions across Canada. As many of you know, CMHC and The University of Winnipeg provide major support for the Institute of Urban Studies. It gives me great pleasure to tell you that CMHC will continue its funding commitment this year: we will be contributing 260 thousand dollars in 1991-92, to ensure that the Institute carries on its work.

Examples of that work include studies of changes in the inner core of cities on the Prairies, and a program of research to identify ways to make development more sustainable in Winnipeg and in other Canadian cities. The Institute has sponsored research which has sought solutions which are novel, innovative and practical. As we encounter the rapid social and economic changes of the twenty-first century, this is the kind of work we need in Canada. In its mission of helping to house Canadians, CMHC supports the contributions of people with talent, imagination and insight. With CMHC continuing its five-year funding commitment until 1994, we can all look forward to continued leadership from the Institute and its associates.

An example of that leadership is the initiative to bring together people this morning to examine the problems and opportunities in sustainable development and urban housing. Every day, in every city and town in Canada, the news media remind us of the needs, the issues, the differing views regarding the impact of urban development on the environment. We see and hear about congestion, deteriorating quality of air and water, pollution and social problems in the heart of our cities. Our suburbs are characterized by massive investment in infrastructure, land and roadways to serve private transportation needs. None of these resources are renewable.

On the other hand, we see and hear that economic development in our cities is the key to sustaining jobs—to alleviate unemployment and related social problems and to provide the capital to mitigate environmental damage. There are many people—rightly—pointing out the problems. There are fewer people suggesting practical answers on the form future development should take—and perhaps even fewer people listening, and putting those answers to work.

Today, we have a group of speakers who have examined the problems, considered solutions and offer some suggestions. They cover a broad range of aspects of sustainable housing and urban development. They recognize that solutions will not come from one-dimensional approaches or unilateral action.

Reconciling housing with the environment is no simple matter, and will require much more than action by one group, one jurisdiction or one institution. It requires partnership. CMHC works closely with many professional associations, academic institutions, industry groups and other public departments at all levels of government which are concerned with urban and regional planning and the residential sector.

One such program, sponsored by CMHC, is "Affordability and Choice Today," or A•C•T, which is designed to foster regulatory reform at the local level. In addition, we are bringing sound ecological principles to bear on Canadian housing. The building of a new house can generate as much as two and one-half tons of waste, while the renovation of an old one can waste otherwise reusable materials. Our new construction waste reduction challenge, for instance, is aimed at implementing the 3 Rs—reduce, reuse and recycle—in residential construction and renovation.

I think we realize that we must all work together. And we must not allow the difficulties, obstacles and frustrations of trying to work together to degenerate into excuses for doing nothing: we must form cohesive and effective partnerships where co-operation is the norm. In fact, we are so committed to the concept of co-operation that we are recently established an agency called "The Canadian Centre for Public-Private Partnerships in Housing." This agency works with private sponsors to create innovative housing solutions, using public expertise and private money.

When we listen to the research, analysis and suggestions of concerned people like our speakers today, we know that we have relevant, practical and novel solutions at hand. We *can* understand the complex relationships between the forces at work in our cities. We *can* grasp the interplay between the build environment and the natural environment. We *can* develop, not simply new housing, but new ideas to adapt future needs. We *can* make use of the results of high-quality research to educate the public—to change attitudes and behaviour. And most important, we *can* bring to bear the political will to make these things happen, to agree on our goals and to pursue them. On this Saturday morning, we have come together to discuss the challenges we face, and the opportunities we have before us. Our speakers will provide some provocative facts, ideas and suggestions.

With its major contribution to the Institute of Urban Studies, Canada Mortgage and Housing Corporation has ensured the continuation of the work of the Institute. To build on that work, as

partners, we must all do our part in transforming those facts, ideas and suggestions into action—action which will help provide housing for the Canada of the twenty-first century which our children deserve.

THE ORIGINS OF SUSTAINABLE DEVELOPMENT AND ITS RELATION TO HOUSING AND COMMUNITY PLANNING

David D'Amour
Research Division
Canada Mortgage and Housing Corporation
Ottawa

INTRODUCTION

Our subject here today is one of the most important challenges facing human settlements all over the world: the implementation of sustainable development practices. I would like to begin by thanking the Institute of Urban Studies for inviting me to Winnipeg to contribute to these discussions. As an urban researcher representing Canada's national housing agency, I am profoundly interested in both the concept of sustainable development and its application to housing and urban planning.

The main message I would like to get across this morning is that sustainable development is not a new concept. Variations on the theme have been around for a very long time. In fact, it's only quite recently that a distinctly Western disregard for the environment emerged around the same time as the phenomenal growth of our cities.

As a result of this urban growth and disregard for the environment, there are now a host of social, economic and environmental challenges confronting our built forms. CMHC, and the rest of us, have only just begun to address these challenges in a comprehensive way.

To help clear up the term sustainable development, I shall begin this morning by reviewing some of the history behind the concept. Next, I shall discuss the many challenges confronting housing and urban development. And finally, I shall introduce you to some of CMHC's activities that are addressing these challenges.

THE ORIGINS OF SUSTAINABLE DEVELOPMENT

To put the recent call for sustainable development into perspective, we should understand that environmental stewardship has a long history in North America. It started with the people many point to as the very models of sustainable development—our indigenous populations.

Evidence suggests, however, that *even* Native Canadians had to *learn* how to co-exist with the North American environment after coming here via Bering Strait some 10,000 years ago. Original lifestyles had to be adjusted after climate change, improvident hunting and other human interventions, such as fire, eventually led to the decline of numerous North American species. Studies show that during the Pleistocene period, human beings could have met their food needs with about five percent of the animals they were apparently responsible for killing. As the number of North American species decreased and surviving species dwindled, the ecosystems of large areas were disrupted and

indigenous populations were devastated. The experience is thought to have contributed to the emergence of indigenous people's unique relationship with the earth, expressed in their culture, knowledge, practices and careful stewardship of the living earth.

With the arrival of the Europeans starting in the fifteenth century, however, indigenous peoples' ecological perspective was quickly overwhelmed. The fur trade, slash-and-burn land clearing practices, and later, the industrial revolutions, all ran their respective courses with little or no regard for the environment. This disregard for the environment was the beginning of what the renowned U.S. conservationist, Aldo Leopold, would later describe as: "a land relation which is strictly economic, entailing privileges, but not obligations."

With the industrial revolutions came exponential economic and population growth. As the implications of exponential growth became increasingly apparent, concern for the environment and understanding of its importance to human well-being increased dramatically, particularly after the Second World War, when rates of natural resource consumption soared well beyond historical levels.

In the 1960s and 1970s, several classic documents such as Rachel Carson's *Silent Spring* (1964), E.F. Schumacher's *Small is Beautiful* (1973), and the Club of Rome's *Limits to Growth* (1972), sensitized people to our conspicuous consumption and to the reality of large-scale environmental degradation around the globe.

The first international event to address the global challenges articulated by these and other documents, was the U.N. Conference on the Human Environment held in 1972 in Stockholm, Sweden.

At the end of the Stockholm conference, the official delegates passed the "Declaration on the Human Environment," or 109 resolutions for action, dealing with matters that had to be acted upon by nations, media and citizens alike. From these, the world has seen the emergence and growth of such organizations as: the United Nations Environment Programme (UNEP); World Conservation Strategy; Ocean and Seas Action Plan; Earth Watch; and World Heritage.

The Canadian delegation at Stockholm urged further consideration of the relationships between urbanization and environmental degradation. This eventually led to Canada's hosting of Habitat, a U.N. Conference on Human Settlements, held in Vancouver in 1976.

Among the sub-themes of this conference were rates of urbanization, the role of human settlements in national economies, and basic human needs, such as housing, a clean environment, health care, employment and education.

Around the same time as Habitat, a uniquely Canadian response to environment-development dilemmas was delivered by Justice Thomas R. Berger in *The Report of the Mackenzie Valley Pipeline Inquiry*. The pipeline proposal mobilized powerful economic interests, including multinational oil

companies, banks, steel companies and North American gas utilities. However, in spite of the massive public relations campaign by the applicants, Canadians became disturbed by the environmental and Native issues. The report, written with a clear sense of conviction for the environment and social problems of the North, enshrined the principle that economic development could be stopped by environmental veto.

By the 1980s, environmental consciousness in Canada and around the world reached an all-time high as the cumulative effects of development, and its accompanying environmental degradation, reached global proportions. In Canada, public opinion polls consistently ranked the environment among the most important issues, if not *the* most important issue facing the country. This consensus, here and elsewhere, led to action on several fronts.

For example, in 1980, the World Conservation Strategy was adopted by the International Union for the Conservation of Nature and Natural Resources (IUCN). It was endorsed by Canada in 1981.

In 1986, the World Conservation Strategy Conference, held in Ottawa, examined progress in implementing the World Conservation Strategy. The conference was attended by more than 300 decision-makers from around the world and ended on a hopeful note. For the first time in the 40-year history of the United Nations, there was almost unanimous agreement that the nations of the world must unite to combat poverty and war. In fact, poverty, and the wars it engenders, were labelled as the most significant threats to the global environment.

Also in 1986, the Third Biennial Conference on the Fate of the Earth was held in Ottawa and endorsed by 225 organizations. The conference followed two previous Conferences on the Fate of the Earth, which were held in New York in 1982, and in Washington D.C. in 1984.

Finally, in April 1987, the World Commission on Environment and Development published its landmark report *Our Common Future*. The establishment of the Brundtland Commission in 1983 reflected the conviction that it is possible to build a future that is more prosperous, more just, and more secure because it rests on policies and practices that are both ecologically and economically sustainable. In November 1987, discussion and debate on the report led to a U.N. Resolution calling upon governments of all member states to develop policies, programmes and budgets to support "sustainable development."

Since the release of *Our Common Future*, there has been a lot of discussion about the meaning of the term "sustainable development." Some environmentalists have charged that sustainable development is nothing more than a sell-out to industry. An opportunity to continue with business-as-usual, with minor modifications when it's convenient or profitable. Others have suggested that sustainable development is an impossibility, a contradiction in terms, or an oxymoron.

There may be an element of truth to both of these assertions. However, it is probably also true that much of the confusion surrounding sustainable development is a result of the words themselves: "sustainable" and "development." For example, too many people tend to confuse economic development with economic growth. Economic growth is generally understood to mean an ongoing expansion in scale of the physical dimensions of the economic system. If this is assumed to be true, then clearly economic growth cannot be sustained indefinitely. This was the gist of the Club of Rome's *Limits to Growth* in 1972. Economic development, on the other hand, is a far less tangible concept and not nearly as easily quantified. In fact, we don't really have any indicators of development, just of growth. If economic development is understood to mean a positive qualitative change in the economic system that pre-empts the need for continuous growth, then sustainable development becomes a very real possibility.

The other tricky word in sustainable development is "sustainable." Many understand an activity to be sustainable if it is one which can be carried on indefinitely, without being adversely affected by, or adversely affecting, its surrounding environment. This overly pure interpretation is, however, an impossibility. First of all, nothing lasts forever. And second, we cannot possibly act in isolation from our environment for the very simple reason that as part of the natural system our actions necessarily alter the system. And when the use of natural resources is involved, virtually everything we do "pollutes" the environment—at least to the extent that the second law of thermodynamics, or entropy, is understood to be a form of pollution.

In a practical sense, therefore, sustainability is a relative *concept which should be measured against the next best, or next worst, alternative course of action.*

With this in mind, I would like to turn my attention to one component of human activity that desperately needs an alternative to the *status quo—the urban development process.*

SUBSTANTIVE ISSUES

Given the rapid rate of urbanization around the world and the dominant position of urban areas in the world's population distribution, the challenge of sustainable development, as presented by the Brundtland Commission in 1987, is largely an urban challenge.

Today, about 80 percent of Canadians live in urban areas, up from about 25 percent in 1881 and 50 percent in 1921. Globally, more than 2 billion people now live in cities, up from 600 million in 1950. As Third World cities continue to grow by another three quarters of a billion people in the next ten years, about half of humanity will live in cities by the year 2000.

According to the Brundtland Commission, over the next several years, the developing world will have to increase by 65 percent its capacity to produce and manage its urban infrastructure merely to maintain today's often extremely inadequate conditions. The situation will be particularly severe in the developing world's mega-cities, such as Mexico City, which is expected to have to cope with some 25 million residents by the turn of the century. Similarly, Sao Paulo and Calcutta's populations are expected to approach 24 and 16 million respectively by the year 2000.

Although the potential for disaster is not nearly as high in industrial countries, such problems as environmental degradation, inner-city decay and neighbourhood collapse will be among the most important urban issues. Relating the concept of sustainable development to urban areas as a whole, therefore, is one of the major challenges Canadians and the rest of the world face in dealing with today's global ecological crisis. The challenge presents itself on many fronts, and involves virtually all of our cities' predominant land uses, including: residential, transportation, office, commercial, institutional, industrial and open space.

In developed countries, and particularly in North America, however, one of the most pressing challenges will be to reduce both the embodied and operating resource intensity of our sprawling residential development patterns. In fact, as is often pointed out, rethinking the two main pillars of our settlement patterns—the private car and the single-family detached house—has created what is arguably the single most important challenge to urban sustainability in Canada.

In a nutshell, the challenge consists primarily of reducing Canadians' dependence on private cars, and creating houses that are at once more affordable for all income groups, more efficient in the use of energy and other natural resources, and more sensitive to changing housing demands and needs. Many, more specific social, economic and environmental issues flow from this broad housing challenge.

For example, the primary social challenge for the housing industry will be to respond to rapidly changing demographics. This includes: an aging population; increasingly smaller households; and a rate of household growth that is faster than the growth rate in the population as a whole.

The housing industry will also have to respond to gradually shifting attitudes, perceptions and values. For many people today, a higher "quality of life" is now broadly perceived to include such things as: better access to employment, cultural and recreation opportunities; good educational facilities, community support groups and day care; and more interaction with an exciting mix of people with different cultural, professional and ethnic backgrounds. These are all expectations that prevailing residential development patterns are hard-pressed to deliver.

To begin to respond to all of these social issues, the housing industry will have to start producing a greater variety of more affordable and more appropriate housing options. Its primary economic challenge will be to achieve these objectives while maintaining the industry's productivity, its competitiveness, and its vital contribution to the national economy.

For example, the share of total Gross Domestic Product accounted for by total residential construction in Canada has ranged between four and seven percent over the post-war period. Estimates also indicate that the $27.8 billion spent on residential construction in 1986 generated over 1 million person-years of employment, just under 320,000 of these directly in the construction industry.

These numbers represent a lot of building activity and a lot of Canadian business. They are so significant, in fact, that we use them to help gauge the overall health of our entire economy. But like the rest of our economy, the housing industry has yet to incorporate long-term environmental considerations adequately into its cost-benefit ratios.

This, despite the fact that our houses are all made with, and operate on, products from our surrounding environment. They are all major consumers of natural resources in the building, renovation and demolition stages. And they are all major consumers of energy and water in the occupancy stages. Some sort of "full-cost accounting," therefore, means that the industry will have to begin considering a variety of environmental issues at both the community and household levels.

At the community level, some of the more important urban planning issues include:

1. *The land required for residential subdivisions*. Today's primarily suburban residential developments typically account for about 50 percent of the average city's total land area. Housing has, therefore, been the primary culprit in the ongoing conversion of agricultural land to urban uses. It has also helped consume and degrade other sensitive areas, such as wetlands and shorelines.
2. Our dispersed development patterns have also led to an over-dependence on private cars, the most inefficient mode of urban transportation we have. Today, fully 77 percent of Canadian households own one or more automobiles and 73 percent of all journeys to work are made by car. And the situation doesn't appear to be getting any better. Between 1980 and 1988, the number of registered cars in Canada increased by about 18 percent, while the number of licensed drivers grew by about 24 percent. Presumably, many Canadians are still waiting to buy and register new cars. There are now over 12 million registered cars in the country, a growth of about two million in the past eight years. And there are many more to come.

3. In most urban areas, cars have also overtaken industry as the number one source of air pollution. The average car spills over 34 kilos of hydrocarbons, over 4,000 kilos of CO_2, and about 30 kilos of nitrogen oxide per year. Multiply these numbers by 12 million, and you begin to appreciate the magnitude of the problem.
4. Our dispersed development patterns are also extremely expensive to service. A single-family detached house for example, requires about four times more linear infrastructure per unit than the average duplex. For municipalities, this also means four times more distance to travel for such services as snow and garbage removal, school bus routes and public transit.

Governments at all levels can no longer afford to ignore these kinds of inefficiencies. We must somehow learn to stretch our service dollars, or work smarter rather than harder. If we fail in this capacity, the real questions being debated about the entire infrastructure issue, and about community development in general, are: who will face the unpopular job of raising more tax dollars, and who will do the more popular job of spending it?

If we lower the microscope from the community to the level of the individual house, we find a variety of environmental issues in the building, occupancy and renovation stages of a dwelling unit's life cycle. Some of the key environmental issues in the building stage include:

5. The energy intensity of building materials: for example, the typical woodframe house requires approximately one-third less gross energy than do the main alternatives—steel or concrete. There are trade-offs to be made in every situation, but this is the kind of information that the industry needs to know to make informed decisions.
6. Another issue in the building stage is residential construction waste: an average of more than 2.5 tonnes of waste is produced in the construction of one new dwelling unit. And as much as 10 percent of all lumber purchased for construction ends up as waste. Coming to grips with this problem would not only lighten the load on the environment, but would also save builders a lot of money.
7. One of the key social challenges in the building stage will be to construct more flexible houses, able to adapt to today's changing housing demands and needs: for example, the 65 plus age group is expected to surpass 3.9 million in 2001, up from about 2.8 million in 1981. Of this, the percentage made up of the over 75 population is expected to top 44 percent, up from around 35 percent in 1981. This implies the need for a radically different stock of housing, as the nuclear families for which the suburbs were planned move into an ever-shrinking minority position.

One approach to dealing with changing demographics that are ultimately reflected at the community and household levels is the Canadian Home Builders' Association/Canada Mortgage and Housing Corporation demonstration home, know as "Charlie." This made-to-convert house can be a single 2,000 square foot residence, or it can be converted into two separate single residences by adding and removing certain key walls.

Its purpose is to introduce flexibility into neighbourhoods, so families can progress through their natural life-cycles, consuming and renting out space as required. Its a particularly useful concept for "house-rich, empty-nesters," who wish to supplement their incomes, while remaining in their homes as long as possible.

In the occupancy stage, the main environmental issues related to housing are:

8. The energy spent to operate existing dwelling units: residential end-uses account for approximately 20 percent of total energy demand in Canada. Since space heating requirements account for over 65 percent of this, there is significant potential to bring this number down considerably, particularly in Canada's older stock of post-war housing.
9. Canadian households also appear to be consuming far too much fresh water; municipal water use, of which the residential component accounts for over 63 percent, has undergone a general upward trend, rising from about 3,000 cubic metres in 1972 to over 4,000 cubic metres in 1981. This rate of increase is significant, particularly when only five percent of domestic water is used for drinking and cooking, while fully 70 percent is used to water our lawns and to flush our wasteful five-gallon toilets. At 360 litres *per capita* per day, Canada is second only to the United States in *per capita* water consumption, and nearly double the consumption rate of both Sweden and the United Kingdom (200 litres *per capita*).
10. The flip side of this water consumption is the pollution of receiving waters by residential wastewater discharges: in 1984, only about 2,000 of Canada's over 3,000 communities had sewers of any kind. And of these communities, only about 44 percent had some kind of sewage treatment. Today, many of these facilities are now obsolete and/or rapidly deteriorating due to a lack of maintenance.

And finally, an increasingly topical problem in many Canadian cities is the land required for household waste: the average Canadian generates about 1.7 kg of garbage per day. Much of this is recyclable material, such as paper and glass. And much of it is organic and could be composted rather than sent to landfills.

On the subject of landfills, the renovation and demolition stages of a unit's life-cycle have also proven to be massive generators of waste: in a 1989 survey of 100 licensed renovation firms, it was determined that over a 12-month period, over 8,000 reusable items were sent to landfill sites. This includes 711 kitchen sinks, 455 bathtubs, 570 refrigerators, close to 4,000 interior doors, and about 2,600 exterior doors.

To put the problem in perspective, there are tens of thousands licensed renovation firms across Canada and countless informal operations adding to these numbers on an ongoing basis. All of these housing challenges in the planning, building, occupancy and renovation stages are interrelated. What is required for the necessary changes to come about is the widespread dissemination of research to encourage the housing industry to adopt better building practices and housing technologies. Research targeted to consumers will also help boost the demand for more environment-friendly products.

To complement this process, however, we also need a revamped regulatory framework. One which is flexible enough to permit the rapid introduction of innovative building techniques, house forms and technologies.

We also need a much more comprehensive community planning process. A process which can consider all of the issues, and evaluate the complex trade-offs associated with different development alternatives. And a process that can do all of this in a manner consistent with new economic realities and changing attitudes, perceptions and values.

For the rest of my talk, I would like to explain how CMHC is helping to effect some of these changes.

CMHC ACTIVITIES

First of all, it should be noted that, as a Crown Corporation, actively engaged in building and community research and development, CMHC is well positioned, in both the business and government sectors, to facilitate the development of more sustainable communities in Canada.

Moreover, this goal is in keeping with the key role CMHC has always played in improving Canadian housing and living conditions. For example, under the provisions of the National Housing Act, policies to support private market housing led to new standards for new construction, and to new housing technologies and approaches. Other policies concerning equity and social justice in housing, led to the development of a range of programs which provide housing assistance for needy Canadians.

There is no question that CMHC has made great strides in both of the above policy areas since the post-war period. From a "quality of life" perspective, it can even be argued that CMHC literally transformed the way the majority of Canadians live. More recently, however, with the increasingly

integrated nature of environment and development decisions, CMHC has been undertaking a number of activities that address the linkages between our homes, our communities and the environment.

At the international level, CMHC has been actively promoting the role of cities in sustainable development. In fact, we were instrumental in getting member countries of the OECD—Group on Urban Affairs to accept this topic as the master theme for the group's new mandate. We also helped ensure that this mandate reflects the social dimension of sustainable development, often overshadowed by environmental and economic considerations.

CMHC is also represented on the steering committee of the "future buildings forum" being organized by the international energy agency. The purpose of this international forum will be to investigate the long-term sustainability of buildings.

Other international activities include involvement with: World Cities and Their Environments—a five city consultation; the International Colloquium on Human Settlements and Sustainable Development; the 1992 United Nations Conference on Environment and Development; and the United Nations Commission for Human Settlements. One of the prime responsibilities of the UNCHS, or Habitat, is the implementation of the Global Strategy for Shelter to the Year 2000.

If anyone would like any more information on any of these activities, you can call CMHC's International Relations Division in Ottawa.

Closer to home, CMHC is currently working on a variety of research projects to improve the overall sustainability of housing. This includes work on:

- the energy intensity of building materials;
- rationalized house energy systems;
- the impact of consumer choices on energy and the environment;
- earth energy systems;
- construction waste;
- residential water conservation; and,
- soil gas and toxic lands.

Perhaps worthy of special mention is CMHC's "Healthy Housing Design Competition." The primary objective of this project is to demonstrate house designs that respect the principles of sustainable development, without compromising indoor air quality or affordability. Seventy-two submissions were received for the first stage of the competition, which closed October 1, 1991. Based on such design criteria as healthy indoor environments, energy and resource efficiency, environmental responsibility, and economic viability, the prototypical designs include a range of housing types in each of the following design categories: suburban detached, older home retrofit, and urban

infill. CMHC will provide funds to assist finalists in developing detailed designs for Stage Two. We also propose to undertake follow-up demonstration activities.

CMHC also works closely with many professional associations, universities, industry groups, and other public departments concerned with broader urban and regional planning issues.

One of the Corporation's initiatives in this context is the Affordability and Choice Today program, or A•C•T. Sponsored by CMHC, A•C•T is being carried out by the Federation of Canadian Municipalities (FCM), the Canadian Home Builders' Association (CHBA), and the Canadian Housing and Renewal Association (CHRA).

The program is designed to foster regulatory reform at the local level. In particular, it encourages municipalities and the housing industry to work co-operatively to improve housing affordability and choice through more flexible municipal planning and building by-laws. The impetus behind the A•C•T program includes such issues as:

1. outdated land development standards that often prevent the use of cost-saving methods in land-use planning, site planning and site servicing;
2. approval procedures that cause unnecessary delays, increasing costs; and,
3. building regulations that often inhibit innovation and technological change.

One of the main components of the program, therefore, is concerned with streamlining land development, and building approval processes. The idea is to minimize costly delays in order to enhance the affordability of both land and housing.

Another component examines land development standards, such as land-use, site planning and site servicing standards. These standards are important, since they help determine both the capital investment and the resource input required in the construction of our houses. It is hoped that regulatory reform would ease the rigidity of these standards, allowing for more flexibility and innovation in the planning and design process.

Taken together, then, CMHC's research activities have a heavy emphasis on the social, economic and environmental dimensions of sustainable urban development. This is in keeping with the Corporation's position that sustainable community development necessarily implies not just the need to achieve economic objectives and to maintain ecological integrity, but also to consider the importance of a variety of social considerations, such as community equity, and responsiveness to changing social conditions.

Ironically, much like the notion of sustainable development itself, this sort of comprehensive decision-making framework is not new in Canada. It has a long history, starting with the efforts of

Thomas Adams—a planning advisor to the Canadian Commission of Conservation, established in 1909. Adams' conviction that the physical well-being of the people is the resource from which all others derive value made explicit the relationship between social welfare, housing, the environment and urban planning. The Commission's work might even have been more comprehensive than today's outlook. It embraced not just housing, urban planning and public health, but also resource management issues, such as the wise use of forests, agricultural land, wetlands and so on.

For CMHC, and other actors and agencies interested in human settlement issues, the ultimate challenge will be to conduct our affairs while respecting the same holistic unity that our predecessors on the Commission of Conservation recognized three quarters of a century ago.

This is no small challenge, and although the transition may be stressful, it also ripe with economic potential. As our colleague William Rees from the University of British Columbia has pointed out—those industries, companies and nations that recognize the potential early enough, will build not just ecologically harmless businesses or economies, but will also become the best at fixing others' mistakes.

The whole world is full of mistakes. We must seize the moment by cleaning up our own backyard, and by helping others do the same.

In closing, I would encourage us all to heed the very wise motto which was proposed by an environmental activist a few years ago:

Let's treat Canada as if we planned to stay.

THE POLITICS OF SUSTAINABLE URBAN DEVELOPMENT POLICY IN CANADA

Philip H. Wichern, Ph.D.
Associate Professor
Department of Political Studies
University of Manitoba

INTRODUCTION

What is the politics and the policy relevance of "*le développement urbain viable*"—"sustainable urban development" in Canada?[1] This concept has become a prominent focus not only for this Institute and the Canada Mortgage and Housing Corporation, but has also been the theme of major international conferences held in Toronto and Montreal—the latter being the Third Summit Conference of Major Cities of the World (Couture, 1991). In addition, the more general concept of "sustainability" has also become an important policy focus for such national organizations as the Canadian Federation of Municipalities and the Canadian Institute of Planners. The latter was advised that " . . . sustainability is essential to our survival, and should be viewed as [our] . . . central operating principle . . . "(Canadian Institute of Planners, 1991). With this focus in academic circles and professions, as well as more general policy commitments from the Prime Minister and the Premiers promoting sustainable development, it is most appropriate to inquire as to whether Canadian governments at all levels are formulating policies and undertaking projects which will make sustainable urban development a key concept in Canadian settlement and urban policymaking. Or, is this interest simply a diversion for academics and professionals from public and private patterns of continued wasteful, pollution-producing, urban growth—"business as usual"? In other words, what is the politics of sustainable urban development in Canada?

The author introduced and first addressed these questions in a previous volume published by this Institute (Wichern, 1990). However, the scope for that initial research was quite limited. It introduced the research question and traced the development of the first definitions of sustainable urban development in Canada. But its primary context was the Manitoba Government's policy focus on formulating and implementing sustainable development policies. The primary research focused on the degree to which City of Winnipeg officials and programs were recognizing and incorporating sustainable urban development policies. This paper expands the research scope to include all levels of Canadian government. The organization is quite simple: beginning with the national government, each level of government is reviewed with regard to the recognition and status of sustainable urban development as a focus for urban policymaking at that level. At the local level, particular attention is given to numerous Canadian municipalities which are pursuing innovative sustainable development practices and developing sustainable urban development as a primary policy focus. A final section summarizes the research findings and makes recommendations for further research.

THE FEDERAL LEVEL

The sponsorship of the conference for which this paper was prepared and David D'Amour's paper (presented in this volume) indicate a substantial commitment by some individuals and subunits within CMHC to exploring the nature and the significance of sustainable urban development. The institutional focus of this commitment appears to be its Research and Policy Planning Division, and especially its Centre For Future Studies. In 1991, there was also an interdivisional committee which was reported to be functioning as an nexus for activities focused on this subject (CMHC, 1991, p. 1). The particulars of CMHC's expanding sustainable urban development activities have been described in D'Amour's paper and CMHC publications (see CMHC, 1991, pp. 1-4). Those activities will not be described or evaluated further here because they are well described elsewhere, and because evaluation of them here would be premature.

What is more important to recognize here is that there are several significant institutional and political constraints which limit the scope and significance of CMHC's focus on sustainable urban development in terms of national urban policy development. First, the scope of CMHC's institutional commitment appears to be limited to research, demonstration projects, and support for workshops and conferences. There is no indication that these activities are expected to lead to the formulation of national sustainable urban development policy (or policies).[2] Most, if not all, of CMHC's activities are currently in the realm of academic, research, experimental and demonstration projects, or the communication of information about sustainable urban development. But this author has found no evidence of an explicit process of formal policy formulation and adoption designed to produce national sustainable urban development policy or policies.

There is also a second important consideration to be kept in mind when assessing the current interest in sustainable urban development as a policy focus within CMHC, and that is whether sustainability is one of the broader policy goals of CMHC. When this organizational context is considered, the policy status of CMHC's sustainable urban development activities diminishes even further. First, by statute (the National Housing Act), CMHC "is a federally-owned Crown corporation in the business of helping to house Canadians" (CMHC, 1989, p. 1). "CMHC's general mission is to ensure that Canadians are well housed . . ." (CMHC, 1990, p. 1). Unlike the United States Department of Housing and Urban Development, CMHC has no clear mandate or policy context for developing sustainable urban development policy (or any other kind of national urban policy). This lack of policy mandate is confirmed in the omission of sustainable urban development in CMHC's six "strategic directions" for 1990 to 1994, whose commitment does not extend beyond "Harmonizing the pursuit of Federal housing objectives with urban development" (CMHC, 1990, p. 14). In short, no matter how

much research particular individuals or groups do, inside or outside of CMHC, the political reality is that CMHC has up to this time not been given a mandate to formulate or implement sustainable urban development policy(ies). CMHC appears to be limited to sponsoring conferences, undertaking research, publishing or funding the publication of sustainable urban development information, as well as helping to organize and funding demonstration projects, such as those in the A•C•T program, described elsewhere in this volume.

But isn't sustainable development both the product and an explicit policy goal of Environment Canada, the lead department for Canada's Green Plan? The Prime Minister reportedly obtained the idea for his surprise 1988 commitment to making Canada a leader in sustainable development from "a thought Environment Canada officials had while drafting Canada's response to the Brundtland report" (Robson, 1990).[3] Subsequently, sustainable development became "the major policy objective advanced by a broad range of actors within the (environmental) policy community" (Hoberg, 1991, p. 9). Although this new policy focus was not explicitly directed toward urban settlement in Canada, one indirect result was the first formal definition of sustainable urban development formulated in Canada. That definition was undertaken by planner/consultant Nigel Richardson in a paper commissioned by the Canadian Environmental Advisory Council. The paper related sustainable development to land-use planning in Canada (Richardson, 1989).[4] Richardson recommended that governments at all levels should identify sustainable development as the primary goal of land-use planning (p. 40). As far as the author has discovered, this recommendation has not been acted upon within Environment Canada. Nor does research indicate any subsequent major thrust within Environment Canada further to formulate and seek adoption of sustainable urban development policy. It is a fact that Environment Canada's land division was given the new title of "sustainable development," and there are senior staff of the Department who have titles such as "Director of Sustainable Development." But research for this paper did not indicate that division or any other of Environment was working on further defining or formulating sustainable urban development policy.[5] On the contrary, reliable sources indicated that when CMHC staff attempted to insert sustainable urban development into the Environment Canada review agendas, those efforts were rebuffed.

Or consider briefly Canada's 1990 Green Plan, which bills itself as enunciating a "Government-wide commitment" of over 40 federal departments and agencies. It endorses about 400 recommendations in seven fields with 22 targets and 100 initiatives which citizens can pursue in achieving sustainable development. But cities, urban development, and sustainable urban development are not mentioned (some sources say they are purposefully excluded). While local affairs are exclusively placed within the provinces' jurisdiction (in Section 92 of the Constitution ["B.N.A."] Act

of 1867), the omission of any national recognition of Canadian urban settlement patterns, trends and significance within the Green Plan is shocking. Despite the Prime Minister's original pronouncement and extensive policy rhetoric since that time, there appear to be few significant practical efforts toward the development of sustainable urban development policies in any other federal agencies or departments, except the limited initiatives in CMHC, which were noted above.

These considerations lead us to the broader scope of the whole federal government, and the crucial problem that it has no constitutional mandate, no institutional framework, and no political or policy mandate to formulate, adopt or implement national urban policy in Canada, including sustainable urban development policy. Furthermore, the present political prospects are not very favourable to the development of such a mandate, or framework, or policy priority. As this paper was being prepared in fall 1991, the (Mulroney) Government indicated in its proposals for revising the Constitution that it was "prepared to recognize the exclusive jurisdiction of the provinces" in "housing" and "municipal/urban affairs," as well as several fields of environmental policy (Government of Canada, 1991, p. 37). As far as research for this paper could determine, neither the Liberals or the New Democratic Party had formulated (as of late 1991) significantly different proposals which would lead to sustainable urban development being proposed as a national policy goal. Even if formulated and adopted by a party, in the current climate of constitutional and economic policy concerns, there appears to be little hope that such a goal would have a high priority on any national party's (or government's) political agenda for adoption and implementation.

Therefore, at the national level, sustainable urban development appears to be a non-policy concern, and not even in the mainstream of national political rhetoric. Rather, sustainable urban development at the national level is popular primarily as a research focus within some parts of CMHC, as well as being a subject of interest to some academics and professionals (planners, consultants, housing and urban development associations). Serious consideration of sustainable urban development policymaking does not appear likely in the near future at the federal level in Canada. (This is unfortunate because modern urban trends and problems are national in scope, not just provincial or local—see Bunting and Filion, 1991). However, if we are to discover progress toward sustainable urban development policies, it is to the provinces and their local or regional governments that we must turn our attention.

THE PROVINCES

Like the federal government, provinces have not created integrated institutional frameworks for the development of urban policy(ies). Rather, they have mostly responded to various types and patterns of urban problems within disjointed and often decentralized institutional contexts which vary from province to province. Older departments such as Municipal Affairs have been joined in addressing urban environmental problems by departments of the environment and provincial environmental protection agencies—but not always with integrated systems of decision-making or policy development. From 1987 to 1990, most provinces added to the existing multiplicity of provincial institutions by creating "multistakeholder" provincial Round Tables on the Environment and Economy (Hoberg, 1991, p.11; Howlett, 1990), many of which featured sustainable development as a central organizing phrase and concept.

In Manitoba, the Progressive Conservative Premier, Gary Filmon, took a personal interest in promoting Sustainable Development as a provincial policy focus. He chaired the province's Roundtable and such interprovincial events as the 1989 national Conference on Sustainable Development (Environment and Economy, 1989). He also created a Sustainable Development Coordination Unit reporting directly to him and the provincial Cabinet. That Unit recommended to the provincial Roundtable basic sustainable development principles and a strategy for developing appropriate policies (Wichern, 1990, pp. 78, 79, 87). The Unit and the Roundtable have produced "A Sustainable Development Strategy For Manitobans" which included sustainable development policy goals and strategies for Winnipeg ("the Capital Region"), as well as goals and strategies for rural areas and Northern communities. However, even this expensive and ambitious policy development effort does not claim to have an integrated and comprehensive sustainable urban development policy (or set of policies) as one of its goals.

Other provinces such as neighbouring Saskatchewan also pursued sustainable development policy goals, but research for this paper did not indicate that any province in 1991 was attempting to formulate a sustainable urban development policy or set of policies. Virtually all the provinces were formulating, adopting and implementing new environmental policies regarding the collection and disposal of liquid and solid wastes (especially toxic wastes), recycling, and protection of areas of natural environments. In Ontario, a 1989 confidential report was presented to the Liberal (Peterson) Government under the title "Reforming Our Land Use and Development System." It suggested replacing the many provincial laws affecting land uses with a single law to be called "The Sustainable Development Act." According to reports on this Act, it would have streamlined the processes for approving land development proposals and taken environmental impact assessment powers from

Ontario's Environment Ministry (shifting them to Municipal Affairs). Opposition parties opposed the law as a step backwards in environmental protection (McInnes, 1989).

The Rae New Democrats, who replaced the Peterson Liberals in 1990, had quite different policy priorities. In June 1991, they announced the creation a Commission on Planning and Development Reform, headed by former Toronto Mayor (and Councillor) John Sewell. Its draft goals did not include sustainable development, and apparently the working groups of local officials which it inaugurated did not spend much time discussing the concept. In the Commission's *Newsletter* which reported their suggested policies, the only mention of sustainable development was by a local planning official in the Rural and Small Centres Working Group. He was quoted as suggesting that " . . . we should have talked about sustainable development . . ." (Commission, 1991, p. 9). However, it should be noted that despite eschewing sustainable development terminology, the Commission's draft goals contained many of the policies and practices associated elsewhere with the concept of sustainable urban land development without any mention of the term or concept as a policy goal. Reviews of materials from other provinces, and interviews with knowledgeable officials, indicated a variety of policy responses to defining and applying sustainable development in the context of rural and urban settlement. In most provinces, the emphasis is on environmental protection and waste management, without primary focus on sustainable urban development. Instead, sustainable development is applied to rural local communities and agricultural regions. The focus is therefore on sustainable rural and regional development, which involves provincial programmes designed to maintain the economic viability of local communities, and which may subordinate environmental concerns to economic development (cf. Everitt, Annis and McGuinness, 1990).

THE LOCAL LEVEL

In an earlier study of City of Winnipeg officials and policies, the author found very little recognition of the nature and importance of sustainable development in terms of municipal government and urban development (Wichern, 1990, pp. 79-80). A more recent survey indicates that senior administrative officials in Winnipeg have learned more about sustainable development, have different definitions of what the phrase means, and can readily identify numerous policies and projects as being "sustainable development" initiatives. These include environmentally friendly purchasing practices, energy and waste management policies, and social development/community improvement programs such as the tri-level Core Area Initiative (Maclaren, III, pp. 95-105).[8] In addition, the Manitoba Government added to the City of Winnipeg Act a requirement that the City address sustainable development as a policy goal in its review and revision of its official development plan, *Plan Winnipeg*. This added Winnipeg

to a growing list of Canadian cities whose development plans included sustainable development goals and policies.

There are several other cities and regional municipalities in Canada which in 1991 were attempting to formulate, adopt and implement explicit sustainable urban development policies and practices. Some of the best known involve comprehensive plans. For example, in 1987 the City of Sudbury began adoption of a new comprehensive "official plan" which committed the City to " . . . making a smooth transition from a conventional growth city to a sustainable development city" (Richardson, 1990, p. 54; Sudbury, 1987, p. F-1; see also Maclaren, 1991, III, section on Sudbury). Another often-cited example of inserting sustainable urban development into an official plan was the City of Ottawa's revised version of its official plan (City of Ottawa, 1991). The proposed Mission Statement of the Plan was a concept of Sustainable Urban Development defined as ". . . an approach to managing urban development which balances the rights of the individual and the needs of society with the need to conserve our natural resource base and enhance the natural environment, thereby promoting the health of Ottawa's inhabitants and communities" (chap. 2, p. 2).

Both Peterborough (Ontario) and Montreal also exhibit a high degree of civic government leadership in promoting sustainable urban development as a new, overarching policy framework for local urban governing. Canada's first local Citizens' Committee for Sustainable Development was organized in 1988 in Peterborough, Ontario by Mayor Sylvia Sutherland (Sutherland, 1989; Tomalty and Hendler, 1991, p. 28; Maclaren, 1991, III, pp. 197-98). This local Citizens' Committee for Sustainable Development formed a Task Force which has made over 101 recommendations for changes in local policies and administration (Maclaren, 1991, pp. 199-203). Another notable locus of local sustainable urban development policy is the City of Montreal. There, the Doré administration formally adopted "*le développement urbain viable*" as its strategic focus for all City departments and operations, perhaps as a result of its preparation for, and hosting of, the October 1991 Third Summit Conference of World Cities, which adopted the concept as its theme (Jacobs, 1991; Couture, 1991; see also Gaudreau et Hamel, 1990).[7] In Montreal, as in Winnipeg, Sudbury and Ottawa, much of the general policy focus on sustainable urban development is institutionalized in new environmental co-ordinators and offices. In Toronto, such an office has been created and many important environmental initiatives undertaken without the sustainable development label and rhetoric. This pattern is repeated in many other municipalities.

On a broader scale, there are many other innovative policies and projects which have been identified by officials or classified by researchers as being the local implementations of the concept of "sustainable urban development." The above and other examples of the vast variety and diversity of

local sustainable urban development policies and projects in Canada are reviewed in detail in the third volume of a 1991 survey of 23 Canadian cities (Maclaren, 1991). Undertaken for the Intergovernmental Committee on Urban and Regional Research, this survey included the definitions of sustainable urban development by senior civic administrators, as well as comprehensive reviews of policies and programs which they identified. The first volume of the resulting report indicates the research methodology, the many different definitions of sustainable development, and the patterns of sustainable development initiatives which were identified and organized by the various civic departments which administered them. As well, there are other initiatives administered by senior city government officials or inter-departmental committees (in Montreal, for example). Others are products of citizen advisory groups and civic committees outside the City government (as in Peterborough). It is not within the space available here to properly review and summarize the vast plethora of local policy initiatives and project innovations which are reviewed in this report. There are simply too many, and they are too diverse to do them justice here. It is sufficient to note here that there are dozens of different policies and projects being implemented in Canadian cities which can be classified as sustainable urban development. These include many recycling and waste management policies and projects, as well as planning and development initiatives. They include processing and reuse of city vehicles' oil and tires, as well as environmentally friendly purchasing (around which there has formed the Association of Canadian Cities for Environmentally Sound Strategies—ACCESS).[9] The local innovative policies include Toronto's ozone reduction policies, and requirements for environmental impact assessments and natural areas as prerequisites for new urban development in several Ontario municipalities. Vancouver commissioned the widely acclaimed study of what can be done locally about atmospheric pollution (City of Vancouver Task Force On Atmospheric Change, 1990).

Despite this broad range of policy innovation at the local level in Canada's major cities and metropolitan areas, there are several reservations that deserve attention. First, most sustainable urban development innovations can, and often are, subsumed or at least anchored in environmental policy contexts. It remains to be seen whether sustainable urban development will become a separate (and enduring) policy focus. Second, even granted the adoption of sustainable urban development as a policy focus in those municipalities which have been studied, it must be recognized that there are hundreds of other municipalities classified as "urban" in Canada, as well as over four thousand other municipalities. Are the municipalities cited above the leaders in a national trend toward local policymaking based on "operationalizing" sustainable development at the local level? (The concept has been the focus of Federation of Canadian Municipalities' conferences and publications).

In considering sustainable urban development as an emerging policy focus at the local level, we have mostly been dealing with administrators and municipal staff. But local politicians, local interest groups, and the general public should also be considered. The rhetoric of local politicians, election reports, and public opinion polls contained very few direct references to sustainable urban development. There were many references to environmental policies and pollution issues. For example, monitoring the 1991 campaign reports from Ontario (particularly Toronto) did not suggest a popular surge of recognition of, or emphasis on sustainable urban development in campaigns for municipal offices. Here in Manitoba, the concept of sustainable development remains largely absent in local political rhetoric, and the local politicians still view it with considerable disdain. Nor has the term "caught on" with many urban environmentalists and post-Marxists, who see it as rhetoric really meaning "business as usual" (Gerecke, 1989). Instead they champion "Green Cities," "ecology parties" and "bioregionalism" (Cholette, 1989; Gordon, 1990; Roussopoulos, 1990; Cholette, 1991).[9]

Therefore, it seems that what we are actually dealing with here is the intellectual and administrative politics of sustainable urban development, not the practical urban politics of local campaigns and elections or citizen groups and pressures. We are considering the increasing power and influence of a concept which is being put forward and may or may not "stick" as an important concept in the national professional and academic communities (of educated elites) which are most involved in various urban policy and development practices (urban housing and municipal government networks and "policy communities"). For the most part, the local press and media have not "bought" the concept of sustainable development either. They continue to present relevant issues in environmental and economic terminology.

CONCLUSION

There are some interesting innovations in, but limited development of, sustainable urban development policy or policies at all levels of government in Canada. The most important areas of innovation are found in the federal CMHC, the Manitoba Sustainable Development Unit, and at least half a dozen local efforts reviewed in this paper. However, many more important policy innovations and projects are being implemented at all levels of Canadian government—and especially in larger Canadian cities and urban areas—as "environmental" initiatives, without being labelled "sustainable urban development." In addition, that concept has many different meanings at the present time. It remains to be seen whether sustainable urban development will become a suitably defined and enduring component of urban policymaking in Canada. But sustainable urban development is much more than academic, professional or political rhetoric in Canada. It represents many important policy

innovations and practices which take present environmental impacts and future consequences into account. Sustainable urban development is a policy perspective on urban policymaking which evaluates the costs of public decisions on present and future environments and generations. But it remains to be determined whether this perspective becomes a more general framework for local, provincial, and even national urban policymaking. Though there are some locales to watch (Ottawa, Montreal), the prospects do not appear bright. Rather, it is more likely that sustainable urban development will be folded into environmental urban policy categories.

Further directions for research include the tracking of national, provincial and local "operationalizing" of sustainable urban development and environmental policy development. There should be much more extensive research into the orientations and influence of business groups (in particular, housing and urban development associations, Chambers of Commerce and Boards of Trade), as well as of the "Greens" and environmental groups. Clearly, the whole field of local environmental policies and innovations is an important research priority: especially recycling and waste management programs, as well as environmental requirements for new urban development projects. Whatever the fate of sustainable urban development, there is much more research needed on urban environment politics and policies in Canada.

NOTES

1. There is more than one French version of this phrase. In some phrases, "*durable*" or "*soutenable*" appears instead of "viable." The order of the adjectives is sometimes reversed. The cover subtitle on a recent issue of the Montreal-based *Forces* magazine was "*Le développement viable en milieu urbain:* sustainable urban development . . ." (Couture, 1991).

2. This is in spite of explicit citation of Prime Minister Mulroney's 1988 declaration that sustainable development would be "Our basic principle . . . in considering any development, any project, and program . . ." (cited in CMHC, 1991, p. 1).

3. The source of this observation was the Associate Director of the Sustainable Development Program at the Institute for Research on Public Policy. In the article, he was quoted as explaining: "It was the usual Ottawa thing. Somebody decided that the politics of something looked pretty good, reached down into the bureaucracy, pulled out whatever was there, dressed it up and put it into an announcement to the UN" (Robson, 1990).

4. Richardson defined sustainable urban development as ". . . a process of change in the built environment which fosters economic development while conserving resources and promoting the health of the individual, the community, and the ecosystem (recognizing that . . . the urban environment cannot be separated from the region of which it is a part)" (Richardson, 1989, p. 14; on the latter concept see Fowler, 1991).

5. The Canadian Institute of Planners has come closer to at least seriously considering Richardson's recommendation. See *Plan Canada*, 31,3 (May 1991).

6. One City of Winnipeg Commissioner probably came closest to the truth when he told the interviewer that he thought sustainable development is actually a bundle of different ideas, which each government and business organization can adapt for its own purposes: "It means one thing to government, another to business" (Maclaren, 1991, III, p. 96). Winnipeg's Chief Commissioner indicated there was great interest in the concept and the philosophy it represents, but ". . . what it means is less clear. It isn't simply a buzz-word, but rather represents a new value structure" (ibid., p. 95).

7. The author acknowledges the assistance of Normund Brunet, City of Montreal Environment Co-ordinator, regarding these points. See also Maclaren, 1991, III, section on Montreal.

8. Originated in Toronto in 1989, this network now includes purchasing officers in Halifax, Fredericton, Moncton, Montreal, Ottawa, Toronto, Winnipeg, Regina, Calgary, Edmonton and Vancouver. This is based on information from Glen Nakauchi in the Purchasing Department at the City of Winnipeg and Normund Brunet, who is cited in the previous footnote.

9. For broader perspectives on Greens and other "ecologies," consult Ternette, 1987 and Tokar, 1988. Local Green parties have elected municipal councillors in several

American cities, according to *Green Letter: In Search of Greener Times*, 6:2 (Summer, 1990), but the local groups in Montreal and other Canadian cities have been less successful (on Montreal, Roussopoulos, 1990; on other cities, *City Magazine*).

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THE RELATIVITY OF SUSTAINABILITY

William R. Code
Department of Geography
University of Western Ontario

INTRODUCTION

For decades, in Canada, public debate on the nature of urbanism has concentrated on the ideal of public cost minimization. Unfortunately, the concept of "sustainability," as it pertains to urban land-use organization, has not taken us far beyond these traditional arguments advocating containment, densification and, in most cases, recentralization. In urban debate "sustainability" has become the fashionable stance, but its argument is weakly founded and one which, in large part, is a function of the urban paradigm in which the position is rooted.

The case for ever-increasing densities, of tightening the links to the core, and of containing the lateral growth of the city, is usually associated with the acceptance of the normalcy of the monocentric paradigm of urban structure, along with a "neo-malthusianism," and a concentration on the role of large cities as the root of negative environmental impacts. Unfortunately, the essential processes operative in the modern city do not encourage monocentricity; malthusianism is in retreat; and a better case can be made for the large city as environmental solution than environmental pariah.

James Vance's brilliant redefinition of the nature of urbanism in terms of the "city of realms" forces a reconsideration of the traditional arguments regarding urban efficiency (Vance, 1964). Within the context of the "realms" model, the negative effects of moderate-density suburban expansion is not as readily apparent as within the monocentric alternative. The journey-to-work, shop and play may not increase with the expanding "realms." Housing prices may be reduced, and their form more that of the single-family house, the one which William Michaelson found people (at least those in Toronto) clearly prefer. Also, urban outmigration to the low-density environments of smaller communities, often on high-quality land, may be reduced, and "sustainability" thereby increased. The "neo-traditional" planner's reincarnation of the form of the turn-of-the-century small town (including the dominant single-family house) may become more attractive as an alternative to the massed housing of many Canadian suburbs (like Scarborough or Mississauga), which in considerable measure reflect the planner's and engineer's attempts at efficiency maximization. They may well have encouraged what one might expect from fixing the land quantity variable in Alonso's budget equation—a diversion of demand from the high-density suburbs both inward to the pre-restrictive city, and, more ominously for the environment, to the furthest reaches of the urban field (Alonso, 1964; Code and Bailey, 1989).

THE STRATEGIES OF CONTAINMENT, DENSIFICATION, AND RECENTRALIZATION

Strategies for urban sustainability are essentially nostalgic, harking back to the structure and morphology of the industrial mass transit cities of the late nineteenth century—although presumably not in their Dickensian form. They extend a tradition stretching through at least three quarters of a century. This vision gives pre-eminence to a refocusing of the urban population on the historic core of the city, and the promotion of ever-increasing residential and commercial densities. The major tools for the advancement of this conception are the familiar ones of containment, implemented through impoverished budgets for roads and peripheral servicing, inadequate radiating mass transit services, the encouragement of high-density housing, and increasingly, high lot levies.

This strategy does have some virtues, particularly in those relatively few urban environments which have large agglomerations of high uncertainty quaternary functions which are unusually dependent on face-to-face contact—such as one finds in downtown New York, London's "City," San Francisco, and the core of Toronto. Here, it is reasonable to encourage housing in and adjacent to the C.B.D. It is both efficient and more interesting, for as Jane Jacobs once said, "a Central Business District which lives up to its name is a dud."[1] Also in such cities, centralization does positively affect modal split.

The rhetoric promoting the reinvented industrial mass-transit city is familiar. Advocates of this vision cite livability, invoking the images of Paris's Left Bank (forgetting that city's northeast), Greenwich Village (forgetting the "Alphabet Streets"), San Francisco's Russian Hill (forgetting West Oakland) and the morphology of small towns (forgetting the fact of their low densities and the single-family character of their housing). Agricultural land is to be saved; nature is to be preserved and made accessible to the urban populace; energy consumption is to be reduced. What is usually overlooked, but is probably the most telling as an element encouraging containment and growth controls on urban development, is the fact that containment is also beneficial to speculators in residential real estate—witness the role of real estate interests in the implementation of growth control strategies in many of the towns and cities of California (Dowall and Landis, 1982).

The proponents of the containment/densification argument often ignore the implications for land-use planning of important advances in this century's technology—advances such as those in telecommunications, plant genetics, food transportation and storage, and methods of birth control—even where they may be consistent with sustainable development. The revived malthusian positions regarding agricultural land are now, and are likely to continue to be, hard to sustain in the

face of massive world food overproduction, shifts away from animal and animal feed crops, and the spreading global demographic transition.

Advocates of this argument also propose solutions to problems in the urban environment which were, at least in part, rooted in previous applications of these very same solutions. For example, proponents of containment/densification, propose as a solution to the problems of suburbs which they (quite rightly) cite as being so sterile and repelling—places such as Scarborough and Mississauga—greater planning control, more containment, and higher densities. In doing so, they overlook the fact that these objectives were central elements in the planning strategies which produced these areas in the first place. While arguing for increased levels of control, these proponents overlook the fact that these places are, more than any other extensive urban environment in North America, the product of strategic land-use planning.

Also, much of the thrust of the argument promoting "sustainability" pays scant attention to the clear preferences—made evident in both the market and in William Michaelson's exhaustive survey—for the low- to moderate-density, single-family house. Unfortunately, barring dramatic controls on population movement, segments of the urban population may leapfrog the contained/densified city, thereby negating the proposed solution.

The proposals for urban sustainability are often too narrowly focused on the immediate metropolitan area rather than the urban system as a whole. Most importantly, many of the policy conclusions of the containment and densification school are premised on an urban paradigm which is both inappropriate in the modern city, and conducive to the production of sterile, dependent suburban communities devoid of either urbanity or the charm of the traditional small town, and yet one in which an increasing preponderance of our population is scheduled to live.

Moreover, this strategy may be less sustainable than the option of a "city of realms" comprised of moderate densities with a preponderance of single-family housing, with compact metropolitan town centres, all built with the design wisdom of the builders of our late nineteenth century small towns. While the model of the nineteenth century city may still have applicability to the inner reaches of those few large-scale metropolitan areas dominated by finance and other information-intensive activities, even here, the optional paradigm of the "city of realms" will likely be both the most livable and the most sustainable.

URBAN PROBLEM PERCEPTION AND PARADIGM DEPENDENCY

The traditional monocentric urban paradigm requires little elaboration. It is the city of Burgess and Hoyt, of the traditional land consumption-accessibility models, the city of declining population

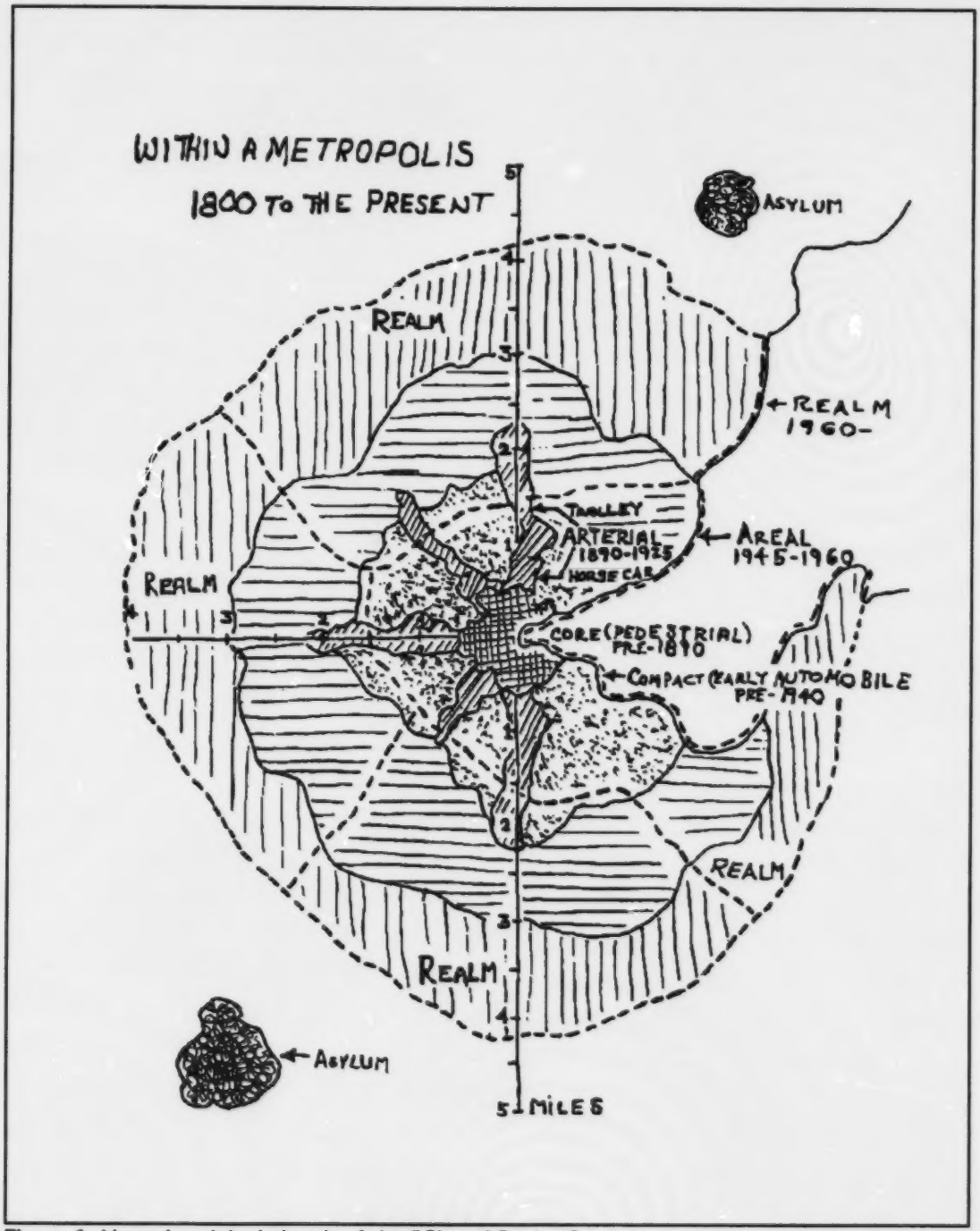

Figure 1 Vance's original sketch of the "City of Realms".

densities, the core and suburb, centralization and decentralization, centripetal and centrifugal processes. It is the city which permeates our high school text books, our newspaper editorials and political debate. In Canadian urban planning it is only since the mid-1970s, in Toronto and Vancouver in particular, that there has developed an appreciation of the potential of an alternative form—the multinucleate city. (Ironically, this is the form of city which evolved in the unconstrained "sprawling" cities of the American south and southwest such as the San Francisco Bay metropolis). This appreciation did not go far enough, however, for the paradigm of what Vance called the "City of Realms" entails much more than a repository of unwanted back offices clustered around sterile shopping mechanisms, all posing no threat to the "sophisticated" metropolitan centre. The authors of Toronto's "Central Area Plan" and "Metroplan" in the 1970s may have missed the full ramifications of their proposals to build their orderly equivalents of the American "edge cities," for they were promoting a model which required substantial rethinking of the impact of peripheral development on urban efficiency, and even essential parts of the logic behind densification and growth control.

Vance describes the urban realm as ". . . a largely self contained extensive area within which a mix of land uses is such that daily life can be carried on without normal resort to external locations in other realms. . . . For most daily purposes, the realm is that self sufficient area that cares for an individual's needs." Increasingly, most residents of large metropolises do not make use of the entire urban area, save for exceptional needs; instead, they live and operate within a realm that is geographically confined enough to allow them to function relatively efficiently in spatial terms" (Vance, 1990). These realms often have distinctive social and economic characteristics, and provide specialized retailing and consumer services appropriate to the residents of the realms. The relatively unconstrained American metropolis, may be made up of many realms (Vance estimated their threshold at between 175,000 to 200,000 population).

Whether our perception of the ideal-typical is that of the traditional monocentric paradigm or the "city of realms" affects both our perception of urban sustainability and what we may view as appropriate planning policy. For example, development of the urban fringe in a monocentric city inevitably results in a lengthening of the average length of the journey-to-work and the journey-to-shop. Such fringe development will also necessitate restructuring access routes through the existing urban fabric. In this context, high-density infilling is attractive for efficiency maximization and the shifting of modal split towards mass transit. In the city of realms, however, lateral expansion at reasonably compact residential densities (say 15-20 units per hectare), along with somewhat more efficient use of commercial and industrial space, does not necessitate significant expansion the urban journeys.

Employment, shopping and services appropriate to the cultural and economic make-up of the realm remain proximate to the populations.

Proximity to the natural environment may even be best maintained in the realm cities. For example, in the "realms" of the San Francisco metropolis, positioned through a process of leapfrogging both the natural barriers and government—established parks and preserves—there exists easy access to vast tracks of often wild open space, even for those in the inner city. This can be more difficult to accomplish in a contained, higher density, centralized city.

The monocentric urban paradigm positions the centre as the dominant focus of specialized retailing, services and culture, and the place of interaction with other cities. But this emphasis can be seen as having encouraged the sterility of the suburban commercial landscape. What does it matter if the new centres do not act as the town centre of old? The traditional urban "downtown" fulfils that role. The unfortunate truth is that in most Canadian metropolitan areas, neither the traditional core, remote from an increasing majority of the population, nor the ill-conceived, often alienating, planned shopping centres provide meaningful centres for the majority of the suburban population.

HOUSING MARKETS, SOCIAL INEQUITY AND URBAN SUSTAINABILITY

It is a mistake to treat the idea of sustainability as solely involving natural systems to the exclusion of processes operative within society and its economy. Unstable systems within the physical environment are undesirable, but so are those within the social and economic systems of the city, if for no other reason than that unstable economic systems may have a negative impact on those of the natural environment. The most important of these latter processes are those of the housing markets, for these markets are notorious for inducing unexpected negative feedback. Ignoring the operation of the housing market in land-use planning can have the effect of exacerbating the substantially inequitable redistribution of wealth resulting from housing hyper-inflation (as happened in Toronto's major housing price bubbles of the early 1970s and the late 1980s). More important to the issue of "sustainability" is the impact of the imposition of strategies of recentralization, containment, and densification on urban housing markets, and the prospect of inducing long-range leapfrogging and regional shifts in urban development.

As Martin Pauley pointed out in *Architecture Versus Housing*, housing can essentially be seen in two ways—as a function of the individual and as a function of society (Pauley, 1971). The traditional planning model (now in the guise of sustainability) which emphasizes servicing efficiency, containment, growth controls, higher densities, and centralization is one which tends to emphasize housing as a function of society. In conditions of rapidly accelerating housing demand, it promotes

rapid growth in land values, through planned containment and the consequent reduction in the availability of this key production factor. It also does this through administrative delays in the approval process. Also, the densification strategy is permissive of higher building densities with a consequent upward revaluation of land. Because of ease of land assembly, the NIMBY syndrome and decentralization of employment opportunities, these higher densities often come to be focused on the urban perimeter. Bourne, for example, noted no significant relationship between high-density apartment construction in Metropolitan Toronto and distance to the CBD, and Pompilii found significantly higher densities in the post 1950s suburbs of London, Ontario (Bourne, 1968; Pompilii, 1981).

The impact of containment and densification is particularly severe within the single-family housing market, but the inflation within this market also puts demand pressure on the various forms of mass housing. Overall, there is a reduction in affordability and the need for an increased role of society in the provision of housing, usually in a collectivized form. This overall containment strategy helped establish "council housing" as the dominant residential form in pre-Thatcher Britain. This may help produce higher urban densities, but it is costly to the individual and to government. In the end, as a means of providing housing to substantial proportions of the Canadian urban population, it may well prove to be an unstable system, as it appears to have been in Europe.

In our society, there exists an impediment to the smooth application of the containment-densification strategy. The problem lies in the deep-seated preference of a strong majority of the Canadian population (along with those of many other countries) for the individually owned, single-family house which can at least begin to mirror the individual rather than some collective entity. This preference has been particularly well documented in the intensive research undertaken by William Michaelson in Toronto and presented in his book *Environmental Choice, Human Behaviour and Residential Satisfaction* (1973). There, he documents the strength of this preference for the single-family house and the corresponding rejection of mass housing as more than an interim residence. Whether it is suburban or central city, the single-family house is chosen by an overwhelming majority as the closest approximation to their "conceptualization of the ideal." In these conclusions, Michaelson's work is consistent with evidence provided by the housing markets during Canada's post-war housing bubbles. During these times, the higher rates of housing price escalation have been suggestive of a strong preference for the single-family house—and limited demand cross-elasticity.

When, in the search for sustainability, containment strategies are adopted, the consequent housing price escalation results in substantial transfers of assets to those possessing property—generally the more affluent—from those who don't—generally the young and the poor.

Moreover, the consumer is unlikely to be as malleable as planners might hope in the search for a closer approximation of the housing ideal. Many aspirants will leapfrog the containment to outlying locations at the outer range of the commutershed, and others will opt to reside in non-metropolitan centres, where densities are lower and consumption of land is, by definition, greater.

THE PRICE OF VIRTUE

The containment/densification strategy, while superficially appealing as a tool promoting land-use efficiency and sustainability, entails considerable costs both in terms of social equity and even environmental impact. These costs may even prove more extensive than the alternative of accepting metropolitan areas in the form of polycentric cities of realms, the single-family house on moderately sized lots, perhaps organized in a more livable form suggestive of the small towns of earlier eras, as neo-traditional planners suggest.

The metropolitan containment/densification option combines not only a significant infringement of individual choice and ability to personalize the home, but also social inequity through the considerable transfers of wealth to owners of housing and potential housing sites from those younger and poorer segments of the population aspiring to such property. This is something which the "realms metropolis," with its more open frontiers, would be less likely to produce. The constraints of the containment/densification strategy might be acceptable if there were indeed compelling empirical evidence favouring the widespread application of this strategy in Canada. But this evidence is dubious at best.

How much more efficient would the internal operations of the metropolis be with this strategy, and would the savings be great enough to compensate for the strategy's negative impacts? While containment, densification and recentralization would positively affect modal split, and use of the backhaul in our radiating transit facilities, the magnitude of these advantages might not be as extensive as often argued. The exhaustive, 64-volume, *Metropolitan Transportation Plan Review* undertaken for the Toronto metropolitan area (MTTPR, 1975) developed 14 alternative land-use distributions and seven alternative transportation plans for the Toronto area for the year 2000. They assessed most carefully a centralization scenario, a dispersion option, and a scenario which developed a number of new office-retail sub-centres in the metropolitan Toronto area. While the results for the centralized and the multiple-nuclei scenarios were close, in the end, they recommended the multinucleate option over the centralizing option.

The organization of the city into the form of a polycentric "city of realms" does allow development without the inherent need to lengthen the journey-to-work and to shop. However, *ceteris*

paribus, the transportation system may still be more efficient with increasing overall densities. After all, the Real Estate Research Corporation's study *The Costs of Sprawl* (1975) in examining four hypothetical communities ranging in density from very high to very low, concluded that high density conferred significant economies in energy consumption. One should be careful in overestimating this saving, however. The *Costs of Sprawl* drew some serious methodological criticisms from, among others, Alan Altshuler of Harvard's Kennedy School, who pointed out a systematic history of overestimation of the mileage of auto travel between high- and low-density communities (Altshuler, 1977). Also, such analyses ignore the trend to the "city of realms." The share of urban residences still exceeds the suburban share of jobs, but the excess has been shrinking dramatically over the post-war period. As Chinitz pointed out, "while the average resident of Manhattan drives fewer miles than the average resident of Long Island, it is still not obvious that the average resident of Suffolk County, the outer county of Long Island drives that many more miles than the average resident in Nassau, the inner county" (Chinitz, 1990)

Also not considered by advocates of the contained, densified and recentralized city is the fact that the political realities of the modern city promote the densification of the outer rings of the city beyond the newly fashionable inner city. Recentralization of employment and shopping under these conditions could actually promote a lengthening of the average journey-to-work and to shop.

Nevertheless, society probably would save some energy if the containment/densification strategies should produce higher urban densities, and if our elites were able to implement strict controls over population movement and more draconian land-use controls. (Of course, we should remember that, in the extreme, a maximizing of efficiency and sustainability would entail huge three-dimensional —ideally hexagonal—structures such as those proposed by Gillette in his utopia, King Kamp Gillette [Gillette, 1894], revived by Le Corbusier, and most lately proposed for Tokyo Bay).

In the pursuit of sustainability, a more limited—less Soviet—ambition is the implementation of systems of growth controls on the immediate metropolitan area. Such controls are a sound policy when reasonably administered in such a way as to promote moderate residential and commercial densities and not in a way which severely affects the housing market. However, as so often happens in urban planning, there is strong evidence that overzealous growth management can have results directly contrary to those desired by the advocates of containment, densification and recentralization. As Benjamin Chinitz has commented:

> The direct line that some people have drawn from growth management through urban sprawl to greater automobile usage and its adverse consequences for the environment is fraught with fallacy. It is based on the logic of an earlier period in the post World

> War II history of metropolitan growth, a logic that was seen to be fallacious even then by some observers and is definitely seen as so now (Chinitz, 1990, p. 7).

When strongly containing growth controls are implemented on the urban fringe, the jilted developers and housing consumers, in principle, have a choice of, as William Fischel puts it, heading towards the cornfields and orange groves or towards the skyscrapers (Fischel, 1991). In an environment such as Metropolitan Toronto's and Vancouver's, the inward option is fraught with difficulties. First, these cities are already intensely developed in their inner cities, with only limited quantities of commercial and industrial land viable for redevelopment. Secondly, such sites are usually only viable for high-density mass-housing, which, as Michaelson found, does not approximate the single-family conception of the ideal of the vast majority of the (at least the Toronto) population. Thirdly, the inner cities have come to be unusually subject to the "NIMBY" syndrome, as a well-heeled, articulate and politicized population has absorbed much of the inner-city housing stock. Given the strong limiting factors in many Canadian cities serving to restrict an inward rebound of those wishing to build single-family houses and those wishing to buy them, the clear option is to leapfrog beyond the containment.

This possibility raises some interesting questions. A number of economists have argued that the commonplace view among planners that favours cities developing contiguously around the existing built-up area will, when implemented, actually result over the long term in less dense forms of development than would be the case without growth controls. The argument postulates that, in the absence of growth controls, land speculators in the inner belts withhold land in order to later dispose of their property for development at higher densities (Ohls and Pines, 1975; Mills and Hamilton, 1981). Thus, it is conceivable that the effect of a containment strategy could be that of reducing those densities which would occur after the infilling process.

Would this potential to reduce densities with containment occur in Canada under more draconian and extensive land-use controls imposed by provincial and regional governments? It is unlikely, for the leapfrogging may well be to the outer ranges of the commutershed, possibly up to 80 kilometres from employment opportunities at the current metropolitan edge. There, densities will be at small-town levels, and the automobile will be absolute. At such a scale, the prospect of significant infilling and for densities higher than in the non-contained scenario are remote.

THE POTENTIAL OF NEO-TRADITIONAL PLANNING IN A CITY OF REALMS

The alternative is to accept and promote the city of realms—a phenomenon which is a natural response to the preferences of the urban population, if not its inner-city elites. Equally necessary is the acceptance of the single-family house as the majority of the population's conception of the ideal,

not just as the affluent's abode while they raise children. This does not have to entail quarter-acre lot subdivisions or inefficient use of commercial and industrial land, nor does the lateral expansion of the city of realms have to generate the kind of sterile, ugly places many Canadian suburbs have become. We should reject the view that low densities produce the impoverishment of the suburbs and confront the fact that the better parts of the late nineteenth century towns and small cities, which serve as an admirable model for much of today's neo-traditional planning, had densities which were lower than those existing in the modern Canadian suburb and much less than many being promoted today. New development in "urban realms" could be not only aesthetic, but also a reasonable compromise between efficiency and livability. They will be the most stable, and in the end the most sustainable.

NOTES

1. Of course, all this begs the issue of whether one needs to promote this turn of events. In many cities with a healthy core office function such as Manhattan, San Francisco, Vancouver and Boston, residential development and restoration was occurring without public initiation.

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THE REGULATORY FRAMEWORK AND THE DEVELOPMENT OF SUSTAINABLE HOUSING AND COMMUNITIES: CAN WE ACHIEVE "SUSTAINABLE" OBJECTIVES WITH OUR CURRENT PLANNING REGULATIONS?

Julie Tasker-Brown
Energy Pathways Inc.
Ottawa, Ontario

INTRODUCTION

"Sustainable development" is a concept which recognizes the interdependence of environmental, social and economic interests. The concept gained wide support as a result of the work of the World Commission on Environment and Development (WCED). In 1987, the WCED released a report entitled *Our Common Future*, better known as the Brundtland Report, which broadly defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[1] A more vivid description, especially fitting in the context of sustainable housing and community development, was offered by Margaret Thatcher in an address to a 1988 Conservative party conference: "No generation has a freehold on the earth," she said. "All we have is a life tenancy—with a full-repairing lease."[2]

Nearly five years after the Brundtland Report first popularized the concept of "sustainable development," policymakers and planners are just beginning to grapple with the challenge of putting "sustainable development" into practice. However, without a clear idea of what makes a society or community sustainable, the next step—the implementation of sustainable practices—becomes very difficult. Nowhere is this more true than in the domain of urban land-use planning.

Bearing in mind the idea of sustainable development as a means of balancing environmental, social and economic interests, we only have to look at our cities to see that their development has been driven by economic concerns, with little regard for the environment and that such development cannot be characterized as "sustainable." It is becoming increasingly clear that we need to change how we develop land and housing if our children are to be able to live in our communities. There is an urgent need, therefore, for greater direction in the integration of environmental and social considerations into the land-use planning process. Inadequate consideration of environmental and social factors in urban policy making involves harmful long-term effects, such as the loss of productive agricultural land, atmospheric and water pollution, contaminated sites, traffic congestion, road accidents, crime and visual blight. Indeed, as authors Barbara Ward and René Dubos have pointed out, a planned and comprehensive strategy for human settlements is one of the best tools we have to deal with these problems.[3]

In order to formulate strategies to make our communities more sustainable, planners must begin by asking themselves three questions:

1. What makes a community sustainable?
2. Can we achieve sustainable community development with our present planning tools and practices? (And if not, what tools are needed?)
3. Are there initiatives from which we can learn?

This paper is divided into two parts: the first will address questions one and two; the second, question three. In Part One, some of the key characteristics of sustainable communities are identified, and various examples of planning regulations that inhibit the development of those characteristics are presented. Although we are a long way from consensus on the definition of the perfect sustainable community, in order to take any practical action, it is necessary to identify some basic elements of a sustainable community. The next step for planners is to identify the regulatory barriers to achieving sustainable communities.

Some of the regulatory tools necessary to achieve sustainable development at the community level are already at our disposal; they need only be redefined in order to fit into a sustainable planning process, one that integrates environmental and social equity considerations into decision-making.[4] The aim of this paper, therefore, is to provide a framework for the revision of regulatory tools—specifically, municipal land-use and building regulations, and planning approval processes—which can be used to make Canadian housing and communities more sustainable.[5]

To illustrate how regulations can be modified to achieve sustainable objectives and to provide an understanding of what challenges lie ahead, Part Two of this paper highlights some approaches to regulatory reform approaches drawn from the author's experience in implementing a nationally sponsored housing program called A•C•T (Affordability and Choice Today). Although the objective of A•C•T is to improve housing affordability and choice and to encourage innovation by stimulating regulatory reform, many of the issues addressed by the program relate to those of sustainable urban development.

PART ONE: CHARACTERISTICS OF AND REGULATORY BARRIERS TO SUSTAINABLE COMMUNITY DEVELOPMENT

For the purposes of this paper, the Brundtland Commission's definition of sustainable development provides a useful starting point for a discussion of sustainable community development. The definition, as outlined above, focuses on two related goals: balancing environmental and economic interests, and ensuring current and intergenerational equity. Simply stated, a sustainable community

is one which "improves the quality of life while living within our ecological means."[6] According to landscape architect Peter Jacobs, the achievement of sustainable living rests on four basic principles:

1. respecting the unity of life;
2. improving the quality of human life;
3. minimizing the depletion of non-renewable resources; and
4. limiting human impact on the planet.[7]

The first two principles refer to the notion that equity is central to sustainable community development. Development that is truly sustainable, then, is not achieved at the expense of other groups or later generations. Improving the quality of human life implies that all groups are sufficiently empowered to effectively participate in decision-making and community-building. The third and fourth principles suggest that we must use our resources more efficiently and manage ecosystems to conserve the earth's vitality and diversity.

There exists a degree of consensus regarding the physical characteristics of a sustainable community. For example, it is widely recognized that higher densities and mixed land use facilitate the use of public transport, reduce the consumption of land and resources and reduce the degradation of the environment—all of which are "sustainable" objectives. Much work remains to be done, however, in order to define more concretely the essential elements of a sustainable community are and those urban forms which favour sustainability.

Governments develop regulations and procedures related to the production and use of housing and land for a variety of reasons. Common government policy objectives are to ensure public health and safety; to permit the effective management of housing and land within communities; to improve housing quality; and to achieve aesthetic goals. If used imaginatively, planning regulations can also be employed to meet sustainable objectives, such as keeping the costs of urban services under control, more equitably distributing resources, maximizing long-term return from the use of renewable resources, and protecting unique natural landscapes. Current regulatory frameworks, however, present a number of significant barriers to the achievement of sustainable community development.

A discussion of six issues provides a framework for the redefinition of regulations. These issues are:

1. Pattern and density;
2. Conservation of the built environment;
3. Choice and diversity;
4. Equity;
5. Protection of the natural environment; and

6. Succession.

1. Pattern and density

Pattern and density have important implications for our ability to make our communities more sustainable. Urban design and residential density, in particular, greatly influence energy and resource consumption, transportation requirements, environmental impact and access to jobs and services. North American cities are generally characterized by a dispersed pattern of living resulting from the separation of land uses and the predominance of low-density residential development. This type of urban form, which consumes precious resources and increases environmental contamination, limits our ability to create sustainable communities. It is possible to identify patterns that are likely to contribute to sustainability. To achieve these patterns, regulations need to:

- encourage a mix of land uses (and activities) where different uses can co-exist harmoniously; and
- encourage higher density housing forms.

Such compact, mixed-use development has been strongly endorsed by the European Economic Community in its recent *Green Paper on the Urban Environment* (1990). Unfortunately, current land-use planning and zoning regulations that foster development patterns that consume vast tracts of land for single-detached housing or that physically distance urban activities from each other, restrict such development.

The impact of urban form on energy use provides one example of the unsustainability of current practices. Our current development patterns of decreasing densities and increasing separation of uses have resulted in the profligate use of energy. Energy use, although influenced by such factors as the cost of fuel and the quality and availability of public transport, can be greatly reduced by careful, comprehensive land-use planning. Changes in land-use patterns can reduce the use of private transport and make public transportation more viable, thereby reducing demand for rapidly dwindling energy supplies.

We need to identify urban patterns that are not only more efficient in terms of energy use but that will not inhibit the introduction of innovative energy technologies, such as communal heating and power systems, and solar energy.[8] Existing land-use patterns, for example, severely limit the use of cogeneration; the sources of waste heat are often at some distance from the places where this heat could function usefully as energy.

Therefore, to achieve sustainability, regulatory systems need to recognize the environmental advantages of urban patterns that allow for a more compact settlement and a greater integration of

different land uses. Land-use regulations, particularly zoning and subdivision standards, need to be redefined so that they favour the intensification of existing communities, higher densities in new developments, the integration of different activities, and energy-efficient transportation systems.

For example, one means of increasing density is to intensify existing housing and communities. Housing intensification is achieved by increasing the number of housing units in a community through the processes of conversion, infill, subdivision and redevelopment. Many non-intrusive, cost-effective means to intensify existing neighbourhoods have already been identified and successfully implemented. Secondary apartments, granny flats, and infill housing are just a few examples. These practices, however, are illegal in many jurisdictions. For example, in spite of a number of successful provincially and federally funded granny flat demonstration projects undertaken in several Canadian municipalities, including Fredericton, New Brunswick, Sudbury, Ontario and Lethbridge, Alberta, granny flats are still not permitted uses in most single-family districts.

Revising land-use regulations to permit the intensification of existing housing and neighbourhoods would serve several environmental objectives: it would reduce dangerous emissions from private-car use and reduce energy use for transportation and home heating, while preserving agricultural land. Intensification can be achieved by designing land-use regulations to be more flexible in terms of permitted uses. For instance, municipalities can include zoning provisions to permit residential options such as rooming and boarding houses and secondary apartments as-of-right, and adopt development standards so that alterations to create additional units in new building stock can take place in the future, as needs change within a community.

2. Conservation of the built environment

Our cities are full of disused and underutilized land, buildings and infrastructure. To make our communities more sustainable, we have to start by making better use of the existing built forms. In fact, we will be relying heavily on our current housing stock to house people thirty years from now.[9] Maximizing the use of the existing built environment would achieve several sustainable objectives: it would curtail urban sprawl into valuable agricultural lands and sensitive areas; limit the negative impact of urbanization on the environment; and provide a greater choice of housing types and tenures. There are several ways to ensure that our existing stock of housing continues to provide housing in the future:

- rehabilitating and maintaining existing housing and neighbourhoods; and
- converting existing housing to permit a greater range of uses, types and tenures.

There are, however, regulatory constraints to these practices.

Rehabilitation and maintenance of existing housing stock and neighbourhoods

Given that a significant proportion of the housing stock in this country is aging, regulations should be revised to encourage residential rehabilitation and maintenance. Chief among regulatory barriers to upgrading housing and neighbourhoods are building standards, land-use regulations, and permitting processes for renovation activities. Current building codes, for example, may bear little or no relationship to residential units built before the regulations were updated. Codes often require the use of the latest materials and methods that are inconsistent with those originally used. Introducing newer technologies sometimes requires the replacement of plumbing and electrical systems that are still serviceable. Furthermore, in many jurisdictions, building regulations and approval processes are identical for new construction and renovation. Such unresponsive regulations and approval processes may increase the cost of rehabilitation, discouraging people from renovating. One innovative approach to encourage the rehabilitation of existing buildings is the adoption of a "renovation code" that deals specifically with renovation. Other measures to stimulate residential renovation projects include exempting minor works from the approval process; assigning staff specifically to handle residential renovations; and providing a same-day permit service for small or low-value projects.

Conversion of existing housing to more appropriate housing types and tenures

Another opportunity to make more efficient use of existing resources, buildings and serviced land is to revise regulations to permit the conversion of non-residential buildings to residential uses and the conversion of existing dwellings to more appropriate housing types and tenures. Some likely conversions are rental housing to condominiums and co-operatives; former warehouses to apartments; and single-family houses to include rental units.

We must recognize that a single urban element, such as a house, a park or school, can serve many purposes both over time and at the same time. Neighbourhoods can be intensified; schools can double as community centres; homes can serve as workplaces and be designed to contract and expand according to a family's changing needs. One recent successful example is the rehabilitation of a school building in Brandon, Manitoba, to contain a seniors' residence and community centre as well as an elementary school. As enrolment at the school declined, much of the old school building fell into disuse. The new design encourages social interaction between the elderly residents and the school children and allows for the future expansion of the school facilities or the seniors' housing should needs change.[10]

3. Choice and diversity

A stable sustainable community fosters diversity in land use, housing type and form, and human activity. In contrast to homogeneous suburban environments, a sustainable community would welcome a range of socio-economic groups. A diverse community provides choice, is less dependent on one resource and is a more interesting, liveable place. Just as a farm may not survive if it is dependent on a single crop that fails, so may a community deteriorate if its residents do not have access to appropriate housing or employment options. If the only choice in the community is a single-detached home, for example, an elderly couple may be forced to abandon the community when they can no longer maintain their home.

The mismatch between the existing housing stock, on the one hand, and people's housing needs and social and environmental concerns, on the other, points to the urgent need to re-evaluate how we use and develop housing and land. To increase housing and lifestyle choices, planning regulations should enable a community to:

- evolve with changing housing needs and preferences; and
- promote security of tenure.

Changing housing demands

Recent demographic changes, such as a decline in household size, an increase in the number of childless and single-person households, and a growing number of elderly households, are creating a substantial demand for small, affordable housing units. Excessive standards and inflexible requirements impede the housing delivery system's ability to supply smaller units and other types of housing appropriate to current economic and social conditions. For example, exclusionary regulations that stipulate large minimum lot and house size, single-family detached housing, the use of expensive building materials, and so on, result in expensive housing. This kind of development practice tends to exclude those who cannot afford, or do not want, such homes.

A recent American Planning Association report examined planning and design strategies to retain or restore the integrity of traditional small-town environments, as an alternative to standard low-density, residence-only suburbs. The report identified diversity of housing types as one of the key ingredients in the development of successful small towns.[11] One way to foster diversity is to provide for a range of housing types both in new residential developments and in established communities, through intensification, by zoning land to accommodate a range of housing types.

This sort of change would require the development of zoning standards such as those that regulate residential density, and minimum unit and building area, which would permit the development

of the desired range of housing types, and the elimination of any standards which would serve to preclude these uses.

Security of tenure

Zoning regulations that limit choice can also be detrimental to security of tenure. Such seemingly innocuous matters as allowing elderly homeowners to use part of their homes as rental units in order to remain in their communities are frequently prohibited by local zoning by-laws. Regulations that limit the availability and choice of affordable housing may force people out of their homes and communities when their financial means and housing needs change.

4. Equity

Fundamental to the concept of sustainable development as defined in the Brundtland Report is the idea of social and economic equity, not only across generations but within the current generation. Authors Julia Gardner and Mark Roseland argue that in a sustainable society, everyone's basic physical needs would be met by a more equitable distribution of resources. Quality of life, they suggest, would reside in "the sense of personal belonging and usefulness that can be found in sharing and community; in the sense of empowerment and the opportunity for creativity that comes with self-determination; in the sense of connectedness to our natural environment associated with increased access to an understanding of healthy ecosystems; and in the sense of well-being that comes from 'plenty of good food, clean air and clean water.'"[12]

Sustainability addresses social self-determination, opportunity and quality of life for all groups. There is a need to develop mechanisms that will enable people fully to participate in, and contribute to, the economic and social development and the environmental improvement of their communities. To create a balanced, integrated community, it is vital to address the social and economic aspects of land use. In particular, it is essential to formulate urban development policies that reduce segregation, and are sensitive to the needs of the underprivileged, especially with respect to decent, affordable housing. From a land-use planning perspective, promoting equity involves:

- providing access to housing, employment and services;
- encouraging the development of affordable housing; and
- encouraging social integration.

The distribution of housing, employment and services

An effort must be made to ensure that all citizens have equal access to decent education, employment and housing. Land-use plans, if not prepared in a holistic manner, can limit the accessibility of jobs and urban services. For example, a transition house at the outer edge of a city would limit the residents' access to the services they need to integrate into the community. Plans and regulations must allow for the development of a city in which mutually supportive activities are not separated and dispersed, but are instead available locally. For example, land-use regulations can be redefined to permit the integration of commercial development and places of employment into residential areas and *vice versa*. Planning regulations must also recognize that, given the changing technological environment and demographic and social realities, homes can be a place for a wider range of activities.

Housing affordability

Housing must be affordable if it is to attract people to a community and allow them to continue to live there. Affordable housing also provides a foundation upon which people can contribute socially and economically to society. Although it is true that other forces in addition to regulatory barriers affect housing affordability, it has been shown that regulations can add substantially to the cost of housing. Residential development standards often exceed public health and safety requirements, or are outdated and overly complex. Lot and dwelling sizes, setbacks, street widths, parking requirements, infrastructure, and construction materials and techniques are examples of housing development components that tend to be overspecified or oversized in zoning and subdivision by-laws and in building codes. Such over-regulation affects housing affordability by restricting the supply of land and by raising the cost of construction and rehabilitation. According to a *U.S. Advisory Committee on Regulatory Barriers to Affordable Housing* report, in some areas of the United States, it is not uncommon for excessive regulations to increase housing prices by 20 to 35 percent (1991).

How can planning officials create zoning by-laws that will allow developers to provide housing for people with modest incomes? Small lots, small units, reduced building and infrastructure standards, and efficient proposal reviews all form part of the answer. One such regulatory solution in the establishment of affordable housing districts. A recent issue of *Zoning News* describes one such district in Fairfax County, Virginia, which allows 4,200-square-foot lots—this reduction in lot size translates into a 20 percent increase in density over other single-family districts in the county.

Social integration

Exclusionary zoning regulations, more than any other regulatory mechanism, act as a major barrier to social integration.[13] Such zoning, by increasing the cost of housing beyond the reach of society's poorer members, segregates people by income level. This, in turn, contributes to the already limited access by economically disadvantaged groups to better educational and employment opportunities, recreation facilities, public transport and other urban services. As one author has forcefully suggested: "Zoning must go beyond neutrality and take an aggressive, positive role in remedying the damage inflicted by the existing distribution of land, income, and capital in metropolitan housing markets."[14]

Regulations can be redefined to permit a variety and mix of housing types and tenures across communities, and to break down the walls that segregate the affluent from the disadvantaged. For example, the development of inclusionary zoning mechanisms, such as mixed-use districts, bonus zoning, floating zoning, and mandatory set-asides of a given percentage of affordable units in a residential development, represents an effort to take into account the social and economic aspects of land use.

Despite a significant evolution in the design of low-income housing projects—present-day projects are typically much smaller scale, designed to blend in architecturally with the community and to provide a greater mixture of income levels—neighbourhood resistance, commonly known as the NIMBY (Not In My Back Yard) syndrome, remains one of the chief obstacles to the implementation of social integration strategies.[15] Neighbourhood resistance frequently stymies modifications to regulations which would permit the construction of smaller homes or more appropriate housing forms, or which would allow the subdivision of land into smaller plots. Instead, regulations have been used to maintain the *status quo* in existing neighbourhoods, thereby limiting housing choice for lower income households and fostering social segregation.

5. Protection of the natural environment

Environmental protection is central to the concept of sustainable development. Policymakers must work to ensure that "growing economies remain firmly attached to their ecological roots and that these roots are protected and nurtured so that they may support growth over the long term."[17] Cities, for example, are often built on the best agricultural land. Limiting urbanization would protect the countryside and preserve sensitive natural habitats such as wetlands and woodlands, while at the same time promoting the ability of society to feed its members.

To apply the principle, planners need to ensure that development:

- reduces resource consumption and encourages appropriate resource use; and
- maintains the integrity of ecological systems, such as wetlands and waterways.

Reducing resource consumption

Starting with the idea that "no system is sustainable unless all resources are renewed,"[16] sustainable development requires a reduction in resource (both renewable and non-renewable) consumption and a better matching of resources to uses.

Land-use measures, for example, can also promote "greener" behaviour. In California, a model zoning ordinance for single-family residential developments encourages developers "to include innovative designs both inside and outside to make recycling more convenient and accessible for residents."[17] Likewise, a recent building code amendment in Minnesota requires suitable space for trash separation, collection and storage in some types of housing.

Maintaining ecological systems

Zoning categories and other planning controls have generally been developed to guide the distribution and form of urban development, with only limited consideration of the natural environment. Land-use designations exist for natural areas such as "hazard lands" or "open space," but these provide only limited protection. New zoning categories need to be developed to protect natural areas and ecological functions. Author Tony Hiss, for instance, describes a proposed system of countryside zoning, known as "existing-use zoning," which would protect working landscapes such as farms from speculators by designating such land to permit only traditional economic activities.[18]

While creating an environmentally sensitive community, we need to recall that cities are for people, and that people find certain types of places more livable and stimulating. Therefore, we need to balance the need to protect the environment with more immediate human needs like comfort, safety, choice and access.

Building standards and land development regulations often inhibit innovative approaches to housing and community design and construction, even though these approaches would allow a reduction in construction costs and increased energy and resource efficiency. Performance standards, rather than prescriptive standards, may better serve to promote the development of innovative construction techniques and materials.

6. Succession

We must seriously consider whether our present type of community development can be sustained over time. Regulators must understand, anticipate and plan for a community's future needs, needs that may evolve over time. Planning for the needs of future generations requires a comprehensive, long-range strategy, which incorporates environmental concerns. The challenge is to balance responsive planning regulations with a consideration of the cumulative effects of planning decisions.

For example, a project's short- and long-term social and environmental costs must form an integral part of its assessment. The need to value these costs fully in the decision-making process will entail a shift from an emphasis on short-term sectoral policies to the inclusion of longer-term environmental and social costs and benefits in the economic equation. For example, the decision to build a low-income housing project using an energy-saving design may entail a higher initial capital outlay, but may also mean lower long-term operating costs and obvious environmental benefits.

Several characteristics of a sustainable community and some of the municipal regulatory constraints to the development of those characteristics discussed in this paper are summarized below. As a framework for the creation of the types of regulatory tools needed to make our communities more sustainable, I propose that municipal regulations and approval processes be modified so as to:

- encourage a mix of land uses, thereby decreasing the separation of activities;
- encourage higher density housing forms;
- intensify existing communities;
- rehabilitate and maintain housing and communities;
- convert housing to permit a greater range of uses, types and tenures;
- be more responsive to changing housing needs and preferences;
- promote security of tenure;
- provide a more equitable access to housing, employment and services;
- encourage the development of affordable housing and social integration; and
- encourage innovation.

PART TWO: LESSONS FROM THE A•C•T (AFFORDABILITY AND CHOICE TODAY) PROGRAM

Redefining municipal land-use and building regulations to meet the objectives of sustainable community development is one way to start putting the concept of sustainable development into practice. Although the need for regulatory change seems self-evident, modifying regulations is no easy

task. Regulations and approval processes are, by their nature, slow to change. Nevertheless, change is occurring . . .

One initiative that seeks to stimulate regulatory reform at the municipal level is the A•C•T program. A•C•T was initiated in 1989 by a partnership of four national housing organizations, the Canadian Home Builders' Association (CHBA), the Canadian Housing and Renewal Association (CHRA), the Federation of Canadian Municipalities (FCM), which administers the program, and Canada Mortgage and Housing Corporation (CMHC), which provides financial support. A•C•T provides grants on a competitive basis to municipalities, private and non-profit builders, and other housing professionals. Grants are awarded for three types of projects:

1. demonstration projects resulting in the construction of a house or houses;
2. streamlined approval projects, which aim to reduce the time and effort involved in obtaining development approval; and
3. case studies of existing regulatory initiatives.

The idea behind the program is to provide an incentive to municipalities and builders to work together to actually modify planning and building regulations and approval processes. The demonstration projects provide real examples of the benefits of regulatory reform. A demonstration house can show that regulatory changes will not destroy the character of a neighbourhood, and in fact will increase affordable housing options.

The A•C•T program grew out of the joint recognition by disparate groups in the Canadian housing industry—municipal officials and planners, builders and developers, non-profit organizations—that something was very wrong with the current regulatory environment. Numerous interviews and discussions with housing professionals confirmed this view; it was found that excessive, outdated, and unresponsive regulations and permitting processes were indeed contributing to housing problems in Canada.

When the program was announced in January 1990, four main objectives were identified:

1. to improve housing affordability, choice and quality through regulatory reform;
2. to stimulate innovation in the housing industry;
3. to develop regulations that are more responsive to changing housing needs and preferences; and
4. (very importantly) to foster dialogue and co-operation among the various players in the housing sector.

It is still too early to tell whether the program has achieved these objectives. A•C•T does, however, present some interesting lessons that can be applied to the achievement of sustainable

objectives. These lessons include the importance of community-based action and of involving all the key players, the value of demonstration projects in stimulating change, and the need to share information about regulatory initiatives.

To date, A•C•T has resulted in incremental regulatory changes rather than system-wide regulatory reform. To increase the impact of regulatory change, the next step may be to undertake a more comprehensive review, probably conducted by the provinces that set up the enabling legislation.

The program has funded a wide range of regulatory reform activities across the country. In Victoria, British Columbia, for example, (as in many communities) there is a shortage of vacant land and affordable housing; rather than encouraging continued growth in the periphery, the City of Victoria is constructing three small-lot, infill projects to demonstrate the advantages of urban intensification. One of the key obstacles to the development of higher-density housing in Victoria, as elsewhere, is neighbourhood resistance. To overcome this resistance, the City's Planning Department is working with community groups to develop design guidelines to ensure that the infill projects are compatible with the surrounding neighbourhood.

Victoria's non-profit housing agency, the Capital Region Housing Corporation, is also looking at the issue of regulatory barriers to residential intensification. The Corporation is designing and building a one- and two-bedroom, side-by-side fourplex. A key component of this project is the creation of a new zoning category that will permit the construction of this type of housing on lots now zoned for single-family, detached housing.

A•C•T has funded several projects that examine alternative land development patterns in order to reduce construction costs and increase housing density and choice. These projects typically aim to review and modify land development standards, such as zoning and subdivision by-laws, and site-servicing standards. Under consideration are standards related to streets, sidewalks, easements, lot frontages and sideyards, dwelling unit size and the provision of infrastructure and services. One project, in particular, is developing a subdivision by-law that is flexible and sensitive to the needs, structure and values of small towns. The new subdivision by-law will also take into account the town's unique ecological features.

Other projects confront the regulatory obstacles to greater housing choice and diversity. Various groups are looking at ways to modify regulations to permit the construction of housing forms that are now illegal in many jurisdictions in Canada. For example, projects in Dartmouth, Nova Scotia, Vancouver, B.C., and Ste-Foy, Quebec, have developed variations on the convertible house—a house that expands and contracts with changing family needs—and will draft zoning by-laws to permit its

construction in single-family districts. In Kentville, Nova Scotia, regulations and design guidelines are being developed to permit the installation of granny flats.

None of these projects is earth-shattering in its conception. What is exciting is that they are resulting in much-needed changes to the current regulatory environment, and that many of them are contributing to the creation of more sustainable communities.

Given the complexity of the concept of sustainable development and the magnitude of the task ahead, policymakers may be tempted to wait until all the related issues have been resolved. It is only through action and the cumulative effect of thousands of day-to-day decisions, however, that change will occur.

NOTES

1. *Our Common Future* goes on to state that "the concept of sustainable development does imply limits—not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities" (p. 8).

2. See F. Cairncross, *Costing the Earth* (london: The Economist Books, Ltd., 1991), p. 16.

3. B. Ward and R. Dubos, *Only One Earth* (New York: Horton, 1972), p. 180.

4. See also N. Richardson, in *Land Use Planning and Sustainable Development in Canada* (Ottawa: Canadian Environment Advisory Council, 1989). He suggests that "[land-use planning] is potentially a most valuable instrument for achieving sustainable development without any broadening of the concept; and that we already possess a great deal of the legal power, many of the administrative mechanisms, and the experience to make effective use of the instrument" (p. 5).

5. For the purposes of this paper, the regulatory areas to be addressed will be regulatory instruments with a basis in legislation, and the procedures employed to develop, implement and enforce them. Regulatory instruments to be discussed include development control standards; building standards; zoning by-laws; site-servicing and planning standards; and land development and building approval processes.

6. This definition, suggested by a recent publication of the International Union for Conservation of Nature entitled *Caring for the World*, integrates nicely the central notions of the Brundtland Report.

7. P. Jacobs, "Strategies for a Sustainable Economy," *Ecodecision* (September 1991): 12.

8. Commission des communautés européennes, *Livre vert sur l'environnement urbain* (Bruxelles: Commission des communautés européennes, 1990) and S. Owens, "Energy and Settlement Patterns," *Built Environment*, 5,4 (1979): 282-86.

9. Canada Mortgage and Housing Corporation, *Healthy Housing Design Competition: Guide and Technical Requirements* (Ottawa: CMHC, 1991), p. 32.

10. Canada Mortgage and Housing Corporation, *Innovations in Housing for Seniors* (Ottawa: CMHC, 1989), p. 29.

11. S. Sutro, *Reinventing the Village: Planning, Zoning and Design Strategies* (Chicago: American Planning Association, 1990).

12. J. Gardner and M. Roseland, "Thinking Globally: The Role of Social Equity in Sustainable Development," *Alternatives*, 16,3 (1989): 32.

13. Just as zoning creates and preserves land value, thereby providing some stability for communities, it can also serve to protect the interests of current residents. In two landmark

cases in the United States (*Mt. Laurel I and II*), the court overturned exclusionary zoning ordinances that severely limited multi-family housing and required minimum lot sizes. The decision opened the door for more flexible zoning by obligating communities to regulate land use so as to provide realistic opportunities for low-income and affordable housing. (National Association of Home Builders, *Low- and Moderate-Income Housing: Progress, Problems and Prospects* [Washington, DC: National Association of Home Builders, 1986], p. 79).

14. D. Merriam *et al.*, *Inclusionary Zoning Moves Downtown* (Washington, DC: Planners Press, American Planning Association, 1985), p. 5.

15. There are many reasons why changes in land-use categories meet with such widespread resistance. Typical justifications include concern over property values, destruction of neighbourhood character, increased traffic congestion and, frequently, plain and simple prejudice. Several studies have shown that these fears are often ungrounded. A recent report prepared by Ekos Research Associates Inc. for the Ontario Ministry of Housing concluded that low-income housing projects have no overall negative impact on the value of surrounding properties (see Ekos Research Associates Inc., *Evaluation of Property Value Impacts: Non-Profit Housing* [1989]). In a recent article in *Landscape Architecture*, a builder commented, "Even in the more traditional planned unit developments . . . it's been demonstrated that you can have a variety of housing types right next to each other without diminishing values. On the contrary, you can actually increase values."

16. Starhawk, *Truth or Dare: Encounters with Power, Authority and Mystery* (San Francisco: Harper & Row, 1990), p. 222.

17. WCED, *Our Common Future*, p. 40.

18. T. Hiss, *The Experience of Place* (New York: Alfred A. Knopf, 1990).

19. S. Gordon and S. Canli, "Using Land-Use Measures to Promote Recycling," *Zoning News*, 9 (November 1990): 2.

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RECONSIDERING THE DREAM:
A REPORT ON RESEARCH UNDERTAKEN REGARDING CONTEMPORARY SUBURBIA, WITH A VIEW TOWARDS A NEW MORPHOLOGY

Ian MacBurnie
Atelier Arcadia
Montreal, Quebec

In an introductory paper published in 1990 by the Institute of Urban Studies on the theme of "Ethical Dimensions of Sustainable Development and Urbanization," Mary Ann Beavis discusses how the study of what constitutes "ethics" has recently been expanded to include the concept of human responsibility with respect to the environment (Beavis, 1990). The contention that sustainable development is an ethical notion, therefore one which is inherently related to human and environmental "good," is an enlightened idea; however, I believe it can also be demonstrated to be a particularly specious construct.

Whereas ethics is a study concerned with codifying universal perceptions of right and wrong (conduct), and attempts to articulate moral principles (virtuous and fundamental truths or doctrines), sustainable development is a much less quantifiable concept. While the notion of sustainability can adequately be defined in terms of "nourishment and rightness," development, characterized as an "evolutionary growth," cannot be fully appreciated when considered as an abstract phenomenon. Development is inadequately delineated unless its political and temporal aspects are taken into consideration. It is this linkage between one concept which has a moral aspect and another which can be perceived as having an amoral aspect which is problematic.

The inexact concept of development is one affected by scientific and theoretical forces, as are the two principal professions which translate it from being an idea into a product. Architecture and planning both involve science (learned through observation and experimentation) and theory (speculation), and are, as such, in a constant state of evolution. While an individual may be considered in terms of morality or principle, can architecture and planning, or for that matter, the development of a city, be judged in these terms?

Is there, for example, a right and a wrong way, a moral or an immoral way, of designing an urban infill project? In the current conservative era, architectural and planning theory, dominated by the likes of Leon Krier and Prince Charles, is predicated on an affirmative reply to this query. If, however, this same question had been proposed to the proponents of Dadaism in the early decades of this century, the response would have been in the negative. Consider for a moment Le Vau and Le Notre's plan for Versailles *versus* architect Pearl's for a residence in the Laurentians. Because of the political and temporal nature of architecture and planning, what might be considered "right" today will invariably be considered "wrong" tomorrow.

Right *versus* wrong, moral versus immoral, fundamental truths versus accidental truths, sustainability versus unsustainability. When considering housing and urban development, there can exist no certainty, and sometimes not even a consensus. Insidious or not, the nature of development is of course of fundamental importance to the quality of life as experienced by the residents of urbanized and urbanizing areas, and to the "health" of the environment. While I believe one should question the didactic terminology and assumptions of universality, it is not my intention to denigrate the intentions underlying the concept of sustainable development.

Which leads me to the topic of my presentation: Suburbia. Upon initial examination, it would appear that to consider sustainable suburban development is to attempt to legitimize what otherwise would be perceived as an oxymoron. After all, while sustainable development concerns itself with themes such as community, equity and environment/economy integration (Wismer, 1990), suburbia concerns itself with the enclave, the individual and segregation.

In terms of the framework established for analysis of sustainable development, suburbia is more readily understood by what it is not rather than by what it is: it does not encourage self-determination, it does not permit integration, it does not achieve balance, and it does not foster diversity. What it is, more often than not, is expressed pejoratively: suburbia as the last refuge of the individual, one that masks an insidious conformity, bastion of the religion of NIMBY. In the words of architect John van Nostrand, "The idea of the suburb in North America has been fraught with contradiction since suburbs were first identified as such in the mid-nineteenth century. Where earlier colonial forms of settlement had sought to establish European man's domination over the hostile wilderness, the suburbs were based on the more complex concept of living in harmony with nature. This idea of combining the country with the city—nature with technology—was, from the outset, one of contradiction, and gave rise to the emergence of the suburb as not just a planning type but "perhaps most importantly a state of mind based on imagery and symbolism."[1]

As most developers, and more than a few planners, will admit, contemporary suburbia is not so much a manifestation of an all-pervasive ideology as it is a brilliant representation of the seductiveness of marketing and the power of corporate advertising. In what can only be described as a significant understatement, Brijesh Mathur observes that " . . . most Canadians value their dream of a home in a low-density suburb. Most are probably not willing to accept a lesser alternative."[2]

From the Lower Mainland of British Columbia to Canada's two largest metropolises, developers continue to produce a product for which, if one believes in statistics, there should no longer exist a substantial market: prohibitive housing and land costs, increased traffic congestion, transforming demographics, a lack of housing choice, the evolved and evolving status of women, a shortage of

schools and other socio-cultural amenities, have forever altered the once "utopian" quality of post-1945 suburbia. Yet, the planners keep approving, the builders keep building, and the public keeps consuming. For some thirty years, the post-1945 model of suburbia has been assailed by virtually all professional bodies. Central to their criticisms have been suburbia's most readily perceived failings: its ubiquitous land consumption, auto-dependency, and doctrinaire land-use segregation.

But there is an even more insidious allegation which can be levelled against suburbia, a criticism which is not unique to the post-1945 model, but one which has been exacerbated by it. This has much to do with analyses and assessments of the factors encouraging the development of suburbia since the mid-nineteenth century. It has been demonstrated that the transformation of suburbia from a process of town extension to one of independent community has closely paralleled the evolution of society and the economy. In America, the decision by the middle class to relocate to such idyllic environments as Riverside and Forest Hills Gardens had as much to do with the desire to live close to nature as it did to be removed from the perceived or actual evil of the city. As the hinterland was commodified in the form of increasingly isolated and well-off residential suburbs, the concept of community, the idea of the public, was transformed. No longer living and working in the same community, the life of a middle-class businessman was split between the two. With an enormous personal investment in a home in the suburbs, it was entirely predictable that allegiances would shift, and that the city, experienced from the office, car or commuter train, would be left to fend for itself. The rise of the suburban cannot help but be understood in terms of the decline of the urban as a "legitimate" idea (van Nostrand, 1985; Boyer, 1983; Sennett, 1978).

There is ample evidence demonstrating in pragmatic terms that the expansion of the suburban continues to occur at the expense of the urban. Peripheral extension often undermines publicly financed initiatives aimed at reversing middle-income population loss and at restoring economic vitality to depressed inner-city areas, while at the same time absorbing an increasingly disproportionate share of a static or declining capital funds and maintenance budget. As freeways and arterials are erected on the periphery to serve an elite population, in the city, roads are left unrepaired, and schools are shut and abandoned (Mathur, 1990).

Given these observations, is it possible to construct a linkage between the apparently dichotomous concepts of sustainable development and suburbia? Yes, but only if two preconditions were to be applied: the first being that the concept of suburbia, defined as "the residential area on the outskirts of the city," not be pre-judged pejoratively; the second being that suburbia be viewed as an unavoidable process, but one which, in the words of San Francisco architect Dan Solomon, "can be fixed."

As a resident in the Centre for Future Studies in Housing and Living Environments at CMHC, I have recently commenced a comprehensive two-part study of "suburbia." The first segment, nearing completion, involves a review of multidisciplinary literature pertaining to key periods, seminal projects, and provocative ideas in the evolution of suburbia, focusing on the period from the industrial era to the present day; the second segment will, in light of this review, reconsider contemporary suburbia through the elucidation of an alternative paradigm, one which will be "tested" on a greenfield site in Mississauga, Ontario.

The new paradigm is intended as a response to nascent environmental, economic and societal critiques of current suburban planning practices, but one which is measured in that it is not premised upon a formal rejection of an inexorable North American cultural icon: the single-family house set in a leafy suburb, what is popularly referred to as the "American Dream." The nomenclature *dream* is an appropriate one, as dream is defined as "an unrealized ambition, something only imaginary," a state in which contemporary suburbia surely rests. But a dream is also defined as "a sequence of thoughts and fancies, and of visions," and in this lies the timelessness, the power, and the mystique of suburbia as icon, even though suburbia as artifact resides in an advanced state of degeneration.

The study researches the metaphysical condition of contemporary suburbia seeking to comprehend it in terms of its revolutionary past, in terms of its evolutionary present, and in terms of its theoretical future. It also seeks to understand the nature of the transformed and transforming relationship between suburbia and the "urbia" which originally spawned it, and the intercourse between *urbs* and *contrata* (country), entities now referred to as urbanized territory and exurbia.

The new paradigm will not be a revolutionary one, as it will be based upon a critical analysis and synthesis of *appropriate* historic, contemporaneous and *avant-garde* planning ideas, as well as original planning strategies. The term appropriate is used in the sense that planning concepts are considered relevant when they positively inform the five fundamental principles underlying the alternative suburban model: community compactness, neighbourhood identifiability, increased residential density, a range of low-rise dwelling typologies, and less doctrinaire land-use segregation. Considered in terms of the themes and framework for analysis of sustainable development as articulated by Susan Wismer, the alternative model will be structured in an attempt to create a functional as opposed to dysfunctional "community," to promote the concept of "equity," and to enhance "environment/economy" relationships. It will also seek to support some of the principles that Wismer elucidated, including: self-determination, integration, balance and diversity.

As part of the literature review, the research investigated a number of seminal projects and provocative ideas. In the past decade, particularly in the United States, there has emerged what could

be described as a movement to formulate alternative strategies to contemporary suburbia. Spearheaded primarily by architects among the design professions, this latest reconsideration of the urbanization of the peripheral territory is influenced by aesthetic, cultural, socio-economic and environmental concerns. Among the many proposals being advanced, two strategies, those of the Traditional Neighbourhood Development and the Pedestrian Pocket, manifest considerable equivalence and have garnered significant media, public and professional attention. It is evident that both of these initiatives owe much to a re-examination of historically significant suburban planning ideas and projects, ranging from the traditional town to the commuter and Garden Suburbs.

The most renowned of the strategies, known as the Traditional Neighbourhood Development or TND, is generally referred to as a "neo-traditional" concept premised on the notion that suburbia, to be tenable, must be designed projecting the hitherto forgotten qualities of the American town. Hence suburbia must be comprised not of a continuous spread but of a series of discrete, compact, "town-sized," mixed-use units. The concept, conceived by the Florida-based architects Andres Duany and Elizabeth Plater-Zyberk, hinges upon implementation of an innovative "zoning" ordinance, one meant to substitute for traditionally segregated land-use rules and regulations, controls that seldom permit creation of the form of community desired by architects, planners, the public, and, of late, developers.

Presented in a simple matrix, the TND ordinance is comprehensive in that it lays out a regulating (master) plan supported by the codification of urban, architectural and landscape regulations. In the process, it conceives street and architectural types, and prescribes measures to create a community exhibiting many of the formal features of the neo-traditional American town, such as the grid and the town square. An "intent" statement specifies required components of the TND, such as: civic buildings, commercial town centre and residential neighbourhoods. Each TND is required to be surrounded by open space along the majority of its perimeter.

Although conceptually intriguing, the formulation of the TND should be considered in relationship to the American proclivity towards the Planned Unit Development or PUD, essentially large corporately-owned and developed "enclave" projects premised on the provision of significant recreational amenities (i.e., golf courses). While PUDs have proven enormously popular with their residents, their exclusionary, gated quality has led to much criticism—ranging from social to environmental.

Unlike the PUD, which generally caters to a privileged income group, and is manifested by *cul-de-sac* enclave planning, the proponents of the TND profess that "progressive" social engineering underlies their concept. While they incorporate such social "diversification" notions as the workshop

and rowhouse, it is doubtful that there is anything prescriptive enough in the TND ordinance actually to ensure the creation of a "mixed," socially interactive community, although certain features, such as the adoption of a grid, interconnected streets, and houses situated close to streets, could help, in a limited way, to encourage this.

The first and most highly acclaimed TND project is that of Seaside, located about a hundred miles west of Tallahassee on the Florida Panhandle. A mixed-use resort village, Seaside was the testing ground for both the TND ordinance and the social-engineering exercise. An aesthetically attractive community, Seaside nonetheless demonstrates that it is highly doubtful that a single, profit-motivated developer can build a socially balanced community. The experience of Seaside would appear to justify this claim: since its inception, land values have tripled, and the desired social mix (i.e., artists and lawyers) has largely failed to materialize.

While Seaside can hardly be described as a "town," and even less as a suburb, it can, nevertheless, be described as a resident's and developer's dream come true: the employment of aesthetically pleasing, neo-traditional features such as narrow streets and a highly prescriptive building code has proven attractive to residents, as it ensures property values, and a bonanza for the developer, as it generates enormous profits.

The second of the strategies, the Pedestrian Pocket, is a much more provocative and intellectually stimulating concept. It was conceived and tested in 1989 in a charrette undertaken by the University of Washington School of Architecture. Teams of students led by high-profile architects proposed various solutions for a site situated near Seattle. Each of the teams was requested to respond to a program devised by chief proponent Peter Calthorpe, which articulated the Pedestrian Pocket as being ". . . a simple cluster of housing, retail space and offices within a quarter-mile (five minute) walking radius of a transit (light rail) station."[3]

The Pedestrian Pocket posits a high intensity, mixed-use living and working environment. A typical pocket would accommodate approximately 5000 residents, have employment for 3000 in one million square feet of back office space, and be built on a 50- to 100-acre site separated from other development by a greenbelt.

In contrast to the TND concept, the Pedestrian Pocket is premised upon a finite community centred on a station in a regional collective transport system, one which would traverse the metropolitan periphery, linking a constellation of pockets and providing a viable alternative to the car. Significantly, at the heart of a pocket is not just a main street, but a major employment centre, predicated on contemporary demands for service sector back-office accommodation.

While the pocket features many of the aesthetics of a "town" (i.e., a formal square, civic buildings, mixed-use centre, etc.), it does not pretend to be a town in function. The 100-acre maximum area was determined both on the basis of what constitutes an acceptable walking distance, and on the typical subdivision "increment" which a developer would undertake. While the community would be zoned for a broad cross-section of uses within the central "transit area," market forces would be expected to dictate what specifically would be built and when. Unlike the TND, the pocket would not be dependent upon a doctrinaire style and typological encoding ordinance.

While the pocket does not espouse social-engineering zeal, as does the TND, it does seek to promote the development of a range of dwelling types responding to the needs of a non-nuclear family; its imagery, lacking the nostalgia of the TND, clearly manifests that vision. However, as is the case with the TND, there is nothing inherently prescriptive in the concept that would ensure creation of a balanced community. Currently, the first Pedestrian Pocket intended for an actual client has been planned and is under development near Sacramento, California.

While the TND and the Pedestrian Pocket concepts offer creative alternatives to contemporary suburbia, and while they do go some way towards addressing aesthetic and environmental concerns, they do not offer models which address either socio-economic concerns or provide for easy replicability. However, as previously asserted, while both appear as responses to the American PUD phenomenon, both suggest planning directions which have considerable merit, and manifest characteristics worthy of further study.

The second segment of the CMHC study, that of the articulation of an alternative model, will synthesize appropriate components of these and other *avant-garde* models with original planning strategies. The fundamental strategic difference between these American models and the proposed alternative is in the adoption of a mixed-density block as suburbia's basic planning module.

In an area equivalent to that of the contemporary suburban block, it is intended to formulate a mixed-density block structure predicated upon a gridded street and lane pattern. The new block would provide for significantly enhanced residential density in an integrated community. It would feature: wide-frontage, narrower depth, street-related single-family detached residences, and low-rise, lane-related medium density housing of various typologies. This integrated planning structure would be capable of incorporating community-oriented, street-related commercial premises, as well as lane-related cottage industry activities.

As the principal building block of suburbia, the morphology of the block has a fundamental environmental and socio-economic impact. And while critically acclaimed concepts such as the TND and the Pedestrian Pocket address many concerns about suburbia, each of these examples possesses

a weakness in that each disregards positing comprehensive solutions for the restructuring of that most ubiquitous of suburban dwelling types, the single-family detached dwelling.

As well, it must be remembered that contemporary suburbia is not comprised of "dream houses" alone, but rather is planned to accommodate three distinct residential zoning categories: those of low, medium and high density. If doctrinaire land-use segregation is to be discontinued as a practice in the alternative model, then any proposed block pattern will have to devise a means of accommodating, or rather synthesizing, the attributes of each.

Planning the new suburbia by the block instead of by the neighbourhood unit is neither a new nor a radical idea. Prior to the modern notion of suburbia, perhaps best appreciated by the description of "a community apart," towns generally expanded by gradual urbanization through the process of division and subdivision. This incremental approach enabled the urbanization of small landholdings, thus negating the contemporary requirement for large-scale land assembly, a practice which virtually guarantees corporate versus "individual" development. In the traditional (pre-corporate) model of the "unplanned suburb," a neighbourhood was not a marketing concept, but rather the product of a natural evolution of block by block town-extension (van Nostrand, 1985).

The practice of the city expanding through an accumulation of "unplanned suburbs" was abandoned post-1945 for reasons that have not been thoroughly researched; however, it is possible to surmise that the unprecedented requirement for post-war housing and the advent and universal application of "zoning," neatly dovetailed with the appearance of corporate developers and their assembly of large, speculative land holdings. It would probably have been argued that only large enterprises could produce the quantity and quality of housing required in the brief time frame available; thus, the incremental, block-by-block practice of expansion would have been viewed as being haphazard and inefficient, an entirely specious argument. As well, it is probable that government, municipal and provincial, and their social-engineering bureaucrats, would have been desirous of implementing Canadian variants of *avant-garde* planning and development ideas, particularly those being initiated in America. There is no ready evidence to suggest, for instance, that, unlike in England, the environmental quality of Canadian tract development prior to 1945 instigated a critical backlash. Quite the opposite would appear to be the case, as these now "inner suburbs," particularly in Toronto and Montreal, have never lost their desirability.

Implicit in the premise of instituting a block module concept would be the abandonment of a hierarchical road network, the Holy Grail of post-1945 traffic planners. That this is possible and desirable has been amply demonstrated. Studies of generic, computer-simulated Californian communities have demonstrated that the travel miles in an unrestricted, gridded, *versus* a restricted,

multi-tiered hierarchical system, amounted to less than 60 percent of those travelled in contemporary suburban developments, produced lower travel speeds, reduced travel times, and only marginally increased road lengths.

While incorporation of the block as the primary planning module of the alternative paradigm has many historical precedents, intentional adoption of a *mixed-density* block structure has no obvious precedent, historical or contemporary.

What precisely is a mixed-density block? Essentially, it is a parcel of land of similar area to a standard suburban block, planned on a gridded street and lane pattern. Built into the idea of the mixed-density block is the concept of transformation. Therefore, the individual lots of which a block is comprised would not be "end-run" propositions, but rather something which could evolve over time. The "lot" and the "lane" would assume dynamic qualities. Although the details need to be worked out, there would be the possibility of subdividing individual lots into as many as three parcels of land: one addressing the street, and zoned for single-family detached; two addressing the lane, zoned mixed-use. This is intended to respond to the socio-economic changes in suburbia, by offering a landowner several options. In theory, this land option would allow individual parcels to be densified over time, thus encouraging the participation of individual entrepreneurs, and create opportunities for real diversity.

It is evident that the successful implementation of a mixed-density block would require the formulation of a comprehensive zoning ordinance, one which would be informed substantially by the TND model, one which would allow for incremental development and functional transformations.

How would such a mixed-density, mixed-use lane appear? While a model will not be delineated until the months ahead, following round-table discussions with developers, community groups, CMHC officials and City of Mississauga planning staff, it is possible to illustrate how it might appear by viewing examples of appropriate lane environments located around the world. In particular, the lane environments of Santa Monica and Venice in California, and those in Sydney, Australia, demonstrate the inherent potential of the lane as a unique living environment. Each of these cities once allowed or currently permits residential intensification of lanes in urban areas.

Finally, the objective of the second segment of the study is not to examine a mixed-density block structure as a generic exercise, but rather to demonstrate its potential and to understand its ramifications by conceptually "testing" it on a collective transport accessed greenfield site in Mississauga. This will necessitate formulating how a community comprised of these planning units could be designed. While still to be delineated, the community concept will likely be considerably informed by the TND, the Pedestrian Pocket, and by the ideas of architect van Nostrand, who has proposed an intriguing concept of urbanization which permits most of the vestigial qualities of the rural

landscape, such as hedgerows, woodlots, concession roads, rural homesteads and farms, to be incorporated without loss of "memory." The City of Mississauga has attempted to incorporate some of van Nostrand's planning ideas in the Meadowvale Village "town-extension" secondary plan.

Will such a community comprised of "mixed-density blocks" be a more desirable place to live? Will it have a less negative impact on the environment? Will it assist in transforming suburbia from being a pejorative form of urbanization, to becoming a more sustainable form of development? Hopefully, an affirmative response to these and other queries will be forthcoming in the months ahead.

NOTES

1. John van Nostrand, *Toronto's Suburbs: Their Origins and Future*, Section A, p. 33.

2. Brijesh Mathur, "Community Planning and Sustainable Urban Development," in *Ethical Dimensions of Sustainable Development and Urbanization*, Mary Ann Beavis, ed. (Winnipeg: Institute of Urban Studies, 1990), p. 31.

3. Peter Calthorpe, *The Pedestrian Pocket Book: A New Suburban Design Strategy*, p. 3.

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LINKING AFFORDABLE HOUSING AND ENVIRONMENTAL PROTECTION: A NEW FRAMEWORK FOR SUSTAINABLE URBAN DEVELOPMENT POLICY

Mark Roseland
Ph.D. Candidate
School of Community and Regional Planning
University of British Columbia

INTRODUCTION

Affordable housing and environmental protection are generally considered to be completely separate problems to be addressed by completely separate organizations employing completely separate strategies. Not surprisingly, these strategies are rarely mutually reinforcing; at times they can even be in conflict. This paper examines links between housing and the environment; explores a framework for simultaneously providing affordable housing and environmental protection; and suggests a mechanism to enable such a framework to be successfully employed.

THE ECOLOGICAL CONTEXT FOR SUSTAINABLE DEVELOPMENT

The call for "sustainable development" must be addressed within the context of the ecological crisis. The ecological crisis includes a familiar and growing list of trends, for example: desertification, rising sea-levels, deforestation, forest die-back, acid precipitation, toxic contamination of food and water supplies, soil erosion, species extinction, marine pollution, fisheries collapse, ozone depletion, greenhouse gas build-up and climatic change.

Most scientists now agree that the most critical aspect of the ecological crisis is the threat of major atmospheric and climate change (Flavin, 1990). Put simply, we are changing the earth's atmosphere. If the rate of change remains, the world's weather will be dramatically altered by the middle of the next century.

In essence, we are giving the planet a fever. We know from personal experience that a fever allowed to rise unchecked poses serious health risks to the brain, the immune system, and many other key bodily functions. Likewise, an unchecked global fever poses serious health risks to food production systems (irrigation, growing seasons, crop failures, etc.) and many other key social and ecological functions.

There is considerable "psychic numbing" associated with atmospheric change (Davis, 1990). Although the subject is complex, for the purposes of this discussion a few basic ideas will suffice. Global warming, or the greenhouse effect, is about gases in the atmosphere that trap heat. Fossil-fuel-based carbon emissions (e.g., carbon dioxide) are a leading source of climate change and potential global warming.

The wealthy, energy-intensive quarter of the world's population is responsible for nearly 70 percent of these carbon emissions. It is a simple fact of atmospheric science that the planet will never be able to support a population of 8 billion people generating carbon emissions at even the rate of Western Europe today. Yet North Americans generate carbon emissions at twice the rate of Western Europeans (Flavin, 1990).

THE POLITICAL CONTEXT OF SUSTAINABLE DEVELOPMENT

Since the publication of the World Commission on Environment and Development (Gro Harlem Brundtland, Chair) report, *Our Common Future* in 1987, intense debate has been generated in Canada over the meaning of the Commission's call for "sustainable development" (e.g., Rees, 1989). In the context of other significant global reports on the environment over the last two decades (e.g., *Limits to Growth, Global 2000*), a major contribution of the World Commission was its explicit recognition that poverty is a major source of environmental degradation. For example, the collection and use of firewood by families in developing countries is sometimes considered a major reason for deforestation. However, while this connection seems reasonable enough at first glance, it is not accurate. The main causes of deforestation are actually large-scale lumbering, agricultural expansion, overuse of existing agricultural land, burning of forests to encourage fodder growth, over-grazing and rapid urban growth (Pietila, 1990).

The commission's poverty focus led, logically enough, to the argument that economic growth must be stimulated. However, the major flaw of the Commission's well-intended but misguided analysis (and the likely reason *Our Common Future* has been embraced by governments and corporations as much as by environmentalists) is that it downplays the extent to which environmental degradation results from wealth.

That the commission chose indiscriminate economic growth and all its attendant social and environmental impacts (e.g., its tendency to exploit both labour and the environment) over a consciously appropriate development strategy for the Third World (e.g., adequate housing and clean water rather than export plantations and automobile factories) is bad enough. That the Commission's emphasis on economic growth contradicts its stated goals of equity, social justice and environmental sustainability, is even worse (Trainer, 1990). Of particular concern is that the Commission's call for growth was addressed not only to the developing countries but also to the industrialized countries. The Commission went so far as to call for a five- to ten-fold increase in world industrial output—without any analysis to show whether such economic expansion is ecologically possible.

Despite such environmental optimism, the combination of depleted resource stocks (e.g., fossil fuels, fisheries, forests) together with degraded life-support systems (e.g., ozone depletion, global warming, acid rain) make it inconceivable that *both* the developed countries *and* the Third World can greatly increase their consumption without destroying major life-support systems (Goldsmith and Hildyard, 1988).

Clearly, if development is to be sustainable, it requires that we live within the carrying capacity limits of the biosphere. This applies particularly in developed countries, where one quarter of the world's people consume three quarters of the world's resources. The entire world population could live with the quality of energy services enjoyed by Western Europeans—but cannot live in the style of North Americans, with our larger homes, more numerous electrical gadgets, and auto-centred transportation systems (Durning, 1990). Given that Canadians are among the world's most inefficient and wasteful *per capita* consumers of materials and energy, it is incumbent upon us to learn to live more lightly on the planet.

THE MEANING OF SUSTAINABLE DEVELOPMENT

Like other political objectives of its kind (e.g., democracy), we all agree with the ideal of sustainable development and disagree over what it entails. Indeed, over 80 definitions of the term or some part of it have been identified (Mitlin and Satterthwaite, 1991). Nevertheless, sustainable development has a core meaning which remains however it is interpreted. There are three elements to this (Jacobs, 1991):

- *Environmental considerations must be entrenched in economic policy-making.* Environmental and economic objectives are placed within a common framework in which a variety of parallel objectives can be recognized.
- *Sustainable development incorporates an inescapable commitment to social equity.* This implies not simply the creation of wealth and the conservation of resources, but their fair distribution both between and within countries, including at least some measure of redistribution between North and South. Sustainability also includes the fair distribution of environmental benefits and costs between generations.
- *"Development" does not simply mean "growth,"* as represented by increases in national income. Development implies qualitative as well as quantitative improvement, such as fulfilling human needs, achieving social equity, and providing for social self-determination (Gardner and Roseland, 1989).

In sum, we must learn to live on the "interest" generated by remaining stocks of living "natural capital." Growth at the expense of sustainability is anti-economic growth that actually makes us poorer than richer (Daly and Cobb, 1989). Sustainable development must be a *different kind of development*. It must be *a pro-active strategy to develop sustainability*.

For Canadians to contribute to global sustainability will require major shifts in the lifestyles of the affluent. A wide variety of approaches are called for, including appropriate technologies, recycling and waste reduction. The most important adaptation, however, is a reduction of our *present* levels of materials and energy consumption. This will require a more globally conscious kind of local development than we that to which we are accustomed.

IMPLICATIONS FOR CANADIAN COMMUNITIES

Australian researcher Peter Newman notes that "the most unsustainable form of settlement yet developed—the low-density suburb—has been a relatively recent phenomenon, motivated by a strong anti-urban Anglo-Saxon sentiment and facilitated by the automobile. Social organization for ecological sustainability will need to reverse this settlement pattern." His analysis of settlement patterns and sustainability suggests that sustainable settlements require movement in three principal directions:

- making cities more urban,
- making the countryside more rural, and
- making small towns more viable.

Making cities more urban can be accomplished by "re-urbanizing" city centres and sub-centres; re-orienting transport infrastructure away from the automobile; removing subsidies on the automobile; and providing a more public-oriented urban culture, assisted by attractive urban design (townscapes, streetscapes, malls and squares) and by "traffic calming" measures to facilitate bicycle and pedestrian use of residential areas and major roads.

Making the countryside more rural can be accomplished by establishing sustainable agriculture villages in depopulated rural areas;[1] moving towards bioregionalism as the basis of local government boundaries and responsibilities, including energy production; and extending tree planting incentives.

Small towns can be made more viable by integrating pollution taxes and credits with location and relocation incentives directed to small towns as part of sustainable industry policy; concentrating bottom-up economic facilitation in small towns; and making environmental attractions of small towns the focus of civic attention.

Social restructuring which can unblock the potential of rail transit, innovative housing, alternative energy and sustainable agriculture villages require elements that are more entrepreneurial,

more free market and more flexible in the use of government regulations. Thus sustainability is not *per se* a question of having more intervention, or more regulation, as sometimes claimed. Nor is it a case of just saying that the market will sort it out, as the present market system is highly distorted towards the automobile, city sprawl, rural population decline, and so on; the kind of restructuring to achieve sustainable industries and more sustainable settlements could only be facilitated by governments. What is needed most is a vision for change in our settlements, and to facilitate that change, we need a combination of private and public enterprise (Newman, 1990).

SUSTAINABILITY BY DESIGN

We can begin to visualize the implications of sustainable development for community planning and urban form by examining a series of design illustrations. Although the details vary considerably with the degree of urbanization, a distinct theme runs through these variations.

Yaro *et al.* (1988) have developed practical planning standards which rural New England towns can adopt to protect their distinctive character while at the same time accommodating economic growth. Illustrating actual sites in western Massachusetts, their drawings show each site before development, after conventional development, and after what the authors call "creative development." In both development schemes, the same number of additional units have been added. While many aspects differ between the two development approaches, the most critical is that the conventional approach dramatically alters the land-use pattern (e.g., agricultural lands are lost to suburban sprawl), while the creative approach protects existing land uses.

Norwood (1990) illustrates a similar concept, but within the setting of a typical suburban block. In this case an existing single-family neighbourhood has been transformed into what the author calls an "urban cooperative block . . . an urban village/cluster/cohousing community, complete with community house, common back yards, common parking, and common resources." Ownership can be by a non-profit corporation with resident control, limited equity co-operative, community land trust, or mutual housing association. Other economic advantages include lowering housing costs through additional infill units and added bedrooms, co-ownership, renting of rooms and units, cottage industries or home businesses. By improving affordability, this model offers the potential social benefit of serving a diversified and intergenerational cross-section of the population.

Calthorpe's "Pedestrian Pocket" (Kelbaugh, 1989) illustrates another variation on the theme, this time at the level of a compact neighbourhood. The "Pedestrian Pocket" is defined as a balanced, mixed-use area within a quarter-mile or five-minute walking radius of a transit station. The functions within this 50- to 100-acre zone include housing, offices, retail, day care, recreation and parks. Up

to two thousand units of housing and one million square feet of office space can be located within three blocks of the transit station using typical residential densities and four-storey office configurations.

The underlying concept behind the idea of the "Ecocity," as described by Register (1987), is simply that distance requires energy and time to traverse.

> The greater the distance people have to travel, the higher the use of resources and the greater the production of pollution and waste of time. Therefore, we should build relatively compact centers. These areas will then work well with any public transit connecting them to other relatively high-use areas. Within and between the spots of higher activity people can find it easy and pleasant to walk and bicycle. This pattern of "spots" of development is based on the size of the human body and the speed of walking. It contrasts sharply with "strip" (one-dimensional or linear development) and "sprawl" (two-dimensional or flat development) created by and for things that weigh 10 to 40 times as much and travel up to 50 times as fast: automobiles.
>
> Ecocities could replace the type of growth that presently prevails—wasteful, ecologically unhealthful sprawl—by a development implicitly aware of its limits. A healthy future requires *change* and *a different kind of growth*, with some cities shrinking, becoming much more compact and far less sprawled, some breaking up into smaller units while local population stays the same or increases, some taking responsibility for regional population growth . . . The particular kinds of growth and change which could turn today's cities into ecocities depends on the bioregion of each city and the imagination of its citizens.

BEYOND DESIGN: PROXIMITY PLANNING

Sustainability by design offers possibilities for making subdivisions and other new "developments" more "sustainable." The problem with such design "solutions," of course, is that they do not address the automobile-oriented pattern of land use created by the last several decades of *unsustainable* development.

The design approach also does not ensure affordability. Even though "sustainable developments" such as Andres Duany's "neotraditional town" of Seaside, Florida, for example, have been designed to encourage a mix of housing types and a diversity of income levels, they have in practice become "resort communities" affordable only to the wealthy (Duany, 1991).

A more sustainable pattern of urban land use requires deliberate change in urban form, which in turn requires innovative land-use planning initiatives. Land-use planning should be motivated by the recognition that transportation planning and traffic management initiatives will eventually be thwarted or simply overwhelmed by growth unless accompanied by long-term efforts to reduce the need for travel.

In the Greater Vancouver Regional District, for example, over 80 percent of the atmospheric pollutants come from "mobile sources," particularly automobiles. The City of Vancouver's *Clouds of Change* report, produced by the City's Task Force on Atmospheric Change, contains numerous recommendations concerning transportation, energy efficiency, waste reduction, and so on. While the report proposes greater reliance on alternative fuels, electric vehicles, and the like, the Task Force concluded that these are all short-term measures. Ultimately, we need to *reduce the need to travel* by emphasizing *access by proximity* rather than access by transportation (City of Vancouver, 1990).

OBSTACLES TO SUSTAINABILITY

What are the obstacles to planning for access by proximity? As mentioned above, industrial location and relocation incentives could be employed to encourage both sustainable industry and access by proximity. Yet clearly the major obstacle to "proximity planning" in many communities is market housing.

Market-driven housing prices encourage or force people to live increasingly far from where they work; this encourages or forces people to drive ever greater distances, which in turn causes us to increase our emissions of atmospheric pollutants. Of course, this situation also increases our dependency on fossil fuels and imported oil; the events of the Gulf War clearly demonstrate the consequences of such dependency.

In another, broader sense, market housing is also a major obstacle to achieving a sustainable society. In cities where housing costs are constantly rising, market-driven housing prices force potential purchasers of housing (i.e., each of us) to pursue ever more wealth or higher incomes. This pursuit requires more individual devotion to profit-making as an overriding goal, which collectively requires ever-greater social dependence on economic growth. Social dependence on economic growth requires increasing social allegiance to economic growth as our overriding social priority, which in turn encourages political support for economic growth ideologues (who see economic growth as the solution to all social problems). Once in power, the kinds of economic growth pursued by these ideologues generally requires ever greater consumption of natural resources and produces ever increasing quantities of environmental emissions, pollutants, and hazardous wastes.

From this perspective, how can we approach sustainable urban development such that both affordable housing and environmental protection are provided for simultaneously?

proach has required ever-increasing, on-going public subsidies.

The community land trust model also requires subsidy from both the public and private sectors, but *just once*, for the initial purchase. Further subsidies are unnecessary because the limited appreciation formula keeps the housing affordable for future owners.

Figure 1 compares the conventional purchase of a single-family property to a purchase of the same property through a community land trust. When land costs have been taken out of the purchase price, monthly housing costs are lower, so a lower income is required to obtain financing.

Figure 1

How Does a Community Land Trust Make the Purchase of a Home More Affordable?

Assumptions:

- $85,000 property (25% of this is land value)
- VHFA financing @ 9.7%/25 years (fixed)
- 5% down payment required
- Insurance costs of $250/year
- Tax rate of $2.25/$100 of assessed value
- Assessed value equals purchase price
- Land lease fee equals taxes on land + $25/month administrative fee
- Median family income for family of four = $35,600 (Chittenden County FY88)
- Monthly housing costs are no more than 28% of monthly income

Conventional Transaction (House and Land)		Land Trust Transaction (House only)
$85,000	Purchase Price	$63,750
4,250	Down Payment	3,188
80,750	Need to Borrow	60,563
717	Mortgage Payment	538
180	Taxes/Insurance	140
—0—	Land Lease Fee	65
897	Total Housing Costs	743
$38,443	Annual Income Required to Make This Purchase	$31,843
108%	Percentage of Median Income (family of four) Needed for Purchase	89%

Figure 2 looks at what happens when the same property is resold conventionally, compared to a resale with a community land trust ground lease. This chart dramatically demonstrates how:

- *perpetual affordability* of CLT homes is achieved;
- a *fair return* on owner's equity is achieved;
- the cost of the housing is kept at a level which families can afford; and
- when housing *costs* are lowered, there is less need for subsidy.

(The percentage of appreciation paid to the seller in this example — 25% — is specific to the Burlington Community Land Trust. CLTs may choose different methods of setting the resale price, depending on a variety of factors.)

Figure 2

How is Perpetual Affordability Achieved? or What Happens at Resale?

Assumptions:

- Property is held for 8 years
- Annual real estate inflation = 10%
- Annual wage inflation = 4%
- Annual increase in cost of taxes/insurance = 5%
- No change in mortgage terms or underwriting guidelines
- Housing costs remain no more than 28% of income

Conventional Transaction (House and Land)		Land Trust Transaction (House only)
$182,200	Value at Resale	$136,700
-85,000	Original Purchase Price	-63,750
97,200	Total Appreciation	72,950
97,200 (100%)	Owner's Share of Appreciation	18,238 (25%)
80,750	Amount Borrowed	60,562
71,512	Amount Still Owed	53,634
182,200	Sell Property for	81,988
-71,512	Pay Lender	-53,634
$110,688	End Up With	$28,354
$77,260	Annual Income Required of Next Buyer to Purchase	$42,110
159%	Percentage of Then Current Median Income (family of four) Needed for Purchase	86%

From: Burlington Community Land Trust, Community Land Trusts: A Creative Response to Vermont's Affordable Housing Crisis (Burlington, VT: BCLT, 1988).

THE COMMUNITY LAND TRUST MODEL

One idea that deserves consideration is the community land trust. A community land trust is not simply a land trust that happens to be in a community. As developed by the Institute for Community Economics, a community land trust (CLT) is an organization created to hold land for the benefit of a community and of individuals within the community. It is a democratically structured nonprofit corporation, with an open membership and a board of trustees elected by the membership. The board typically includes residents of trust-owned lands, other community residents, and public-interest representatives. Board members are elected for limited terms, so that the community retains ultimate control of the organization and of the land it owns (ICE, 1982).

The CLT acquires land through purchase or donation with an intention to retain title in perpetuity, thus removing the land from the speculative market. Appropriate uses for the land are determined in a process comparable to public planning or zoning processes, and the land is then leased to individuals, families, co-operatives, community organizations, businesses, or for public purposes.

Normally, the CLT offers lifetime or long-term leases, which may be transferred to the leaseholders' heirs if they wish to continue the use of the land. Leaseholders must use the land in an environmentally and socially responsible manner, but the CLT may not interfere with their personal beliefs, associations or activities. Leases are given only to those who will use the land. Priority in leasing is usually given to those whose needs are greatest, though individual needs must, of course, be matched with the capacity of a particular piece of land. Leaseholders pay a regular lease fee—based on "use value" rather than full "market value" of the land—but they do not need to make downpayments and do not need conventional credit or financing to gain access to the land.

While leaseholders do not own the land they use, they may own buildings and other improvements on the land. In many cases the CLT can help leaseholders to acquire ownership of the buildings and improvements by arranging affordable financing, and in some cases by organizing volunteer labour to assist in construction. Where the CLT has purchased property that includes existing housing, the housing may be sold to leaseholders over an extended period of time, either with the CLT holding the mortgage or through a land contract arrangement.

If leaseholders leave the land and terminate the lease, they may sell or remove the improvements which they own. Typically, the CLT retains a first option to buy the improvements at the owner's original invested cost, often adjusted for inflation, depreciation and damage during the ownership period. This property can then be sold to the next leaseholder. Thus, the first leaseholder is guaranteed equity in the improvements, and the succeeding leaseholder is able to buy the improvements at a fair price. No seller will profit from unearned increases in market value, and no

buyer will be priced out of the market by such increases. Any increase in value that is not due to a leaseholder's efforts will remain with the CLT.

Figures 1 and 2 are from the Burlington, Vermont CLT (BCLT, 1988). Figure 1 shows how a community land trust makes the purchase of a home more affordable; Figure 2 shows how *perpetual affordability* is achieved and what happens at resale. Note that when a conventional house in Burlington is sold after eight years, the next owner needs 159 percent of the then current median income for purchase. If the same house were held by a CLT for eight years, the next owner would only require 86 percent of the then-current median income for purchase.

Note also that the CLT nor the leaseholder holds the land itself as a commodity. The CLT holds it as a basic resource in which the community and individuals within the community are acknowledged to have certain legitimate interests. In this situation, the lease agreement becomes the specific, flexible, legal means by which the legitimate interests of both the community and the individual leaseholder are explicitly described and protected in accordance with the policies of the CLT.[2]

As one of the originators of the CLT model put it, "the community land trust is *not* primarily concerned with *common ownership*. Rather, its concern is for *ownership for the common good*, which may or may not be combined with common ownership (Ill, 1972)."

As a specific model, the CLT is still relatively new in North America—the earliest developments and experiments were begun in the last twenty years, and only in the past few years has the model begun to achieve rather wide recognition. As a basic approach to landownership and control, however, the CLT model is much older than the property institutions that surround us today. Appendix 1 describes the origins of the CLT model.

The CLT bears some resemblance not only to certain of its forerunners (e.g., landbanking), but also to a variety of other contemporary landholding entities, such as real estate trusts, conservancy trusts and housing co-operatives. In some instances the apparent similarities are deceiving. In other instances, they are real and significant. Appendix 2 explains these similarities and differences so that the serious reader can avoid the likely confusion. However, the comparison with housing co-operatives arises so often in the Canadian context that it deserves further explanation here.

Membership in a housing co-op is normally limited to the residents of its properties, who own shares in the co-operative corporation and receive "proprietary leases" from the corporation for their individual housing units. Limited equity co-ops serve the community's long-term interests by preserving affordability for future residents through restrictions on the resale value of shares. Nonetheless, the immediate concern of co-ops is necessarily with the interests of the member-residents. It is possible for established co-ops to acquire additional housing and expand membership,

but such growth usually does not occur. Most co-ops have enough to do in managing what they already have.

CLTs are non-profit corporations, controlled by members who do not own shares in the corporation. Membership in a CLT is normally open to all residents of the community. CLT memberships typically include not only people who own or lease housing on CLT land but people interested in acquiring such housing in the future, as well as others interested in the organization's effect on the community. CLT boards of directors are normally structured so as to balance the representation of "leaseholder members," "non-leaseholder members" and the broader community interest. Given their community-wide scope and varied memberships, CLTs tend to be, and should be, expansive organizations, taking on new projects at the same time as they perform a stewardship role in relation to past projects (ICE, 1989).

THE SUCCESS OF THE BURLINGTON CLT

For its success in creating affordable housing from an innovative, non-profit perspective, the Burlington, Vermont CLT was selected as one of seventeen U.S. projects—two others were also CLTs—to receive the United Nations International Year of Shelter for the Homeless (1987) Special Merit Award. The BCLT was cited for "creating a new kind of partnership in the fight against poverty—a tripartite relationship that links low-income families, the private sector and government." As a recipient of the Special Merit Award, the BCLT program has been documented and published by the U.S. Department of Housing and Urban Development (US HUD) for world-wide dissemination through the United Nations.

The partnership between the municipal government and the CLT is particularly interesting from a sustainable development perspective. Once the BCLT was established, the city pursued a strategy of linking certain development programs with the CLT, as spelled out in a policy document drafted by the Community and Economic Development Office. The document proposes that, in administering housing rehabilitation loans, the city should give priority to structures purchased by BCLT for sale to low- and moderate-income families; that in programs for new housing construction, the city should support housing on land already owned by the BCLT or on city lands that can be deeded to the BCLT; and that in providing mortgage assistance with public funds, the city should give priority to financing the purchase or construction of housing on BCLT land. The policy proposal as a whole is an excellent statement of the advantages of co-operation between a CLT and a local government, with the CLT serving the public interest by preserving the value of public subsidies and the public value generated

by local development, and by promoting a just distribution of the benefits of development within the community (CEDO, 1984).

The city of Burlington has also used its "linkage" program to foster the BCLT's development. In 1984, when a private developer sought permission to build luxury housing and commercial facilities on the waterfront, the city negotiated a commitment from him to build forty units of affordable housing for sale to moderate-income families, on an eleven-acre tract he owned in another part of the city. To ensure long-term affordability of the homes, the city sought to have the land donated to the CLT. The developer and the BCLT agreed to a compromise whereby the land beneath nine of the forty units was transferred to BCLT, which arranged for the sale of those homes to leaseholders. The BCLT obtained a special set-aside of mortgage funds from the Vermont Housing Authority to help low- and moderate-income families finance the purchase of these homes (White and Matthei, 1987).

This partnership between the city and the land trust is most developed in housing policy. In its housing rehabilitation efforts, Burlington has targeted the use of federal rehabilitation grants, local housing improvement funds, and its Add-a-Unit rehab program to properties purchased, improved, or managed by BCLT. For example,

> a federal housing rehabilitation grant was used in the rehab of a six-unit building to provide low-income families with money for a down payment to purchase shares in a limited-equity housing co-operative built on land owned by the BCLT. New housing construction on BCLT land is encouraged by several policies: surplus city land can be deeded to the land trust for housing development; federal funds (the Urban Development Action Grants [UDAG] and Housing Development Action Grants [HODAG] programs) will be directed to BCLT projects; and the city's zoning powers will be used to negotiate commitments from developers to make donations of land to the BCLT and to build affordable housing for the land trust (Seidman, 1987).

The US HUD report specifically addressed the question of replication and concluded that the land trust mechanism is adaptable to any American city. Canadian researchers who have researched the CLT model believe it could also be adapted to Canadian cities. For example, David Hulchanski, of the Faculty of Social Work at the University of Toronto, has conducted extensive research into the possibilities of forming a national Canadian land trust to support the co-operative housing sector.

In Burlington, the expressed purposes of the land trust were to remove land from the speculative market, keep housing affordable, and preserve public access to open land. The projected benefits of the land trust, which are making it increasingly attractive to other jurisdictions, include (US HUD, 1987):

- Trying public subsidies to property rather than to people, so that the subsidies could serve successive occupants.

- Achieving development without displacing entire neighbourhoods, by insulating some of the housing stock from market forces.
- Stabilizing rents without resorting to rent control.
- Accomplishing planning objectives without using stronger governmental powers such as eminent domain, taxation and zoning laws.
- Returning property to the tax rolls by allowing the trust to acquire "surplus" land and buildings from churches, schools, federal or state agencies, or the city itself.

Land trusts have also been remarkably successful in tapping private resources for the public good, especially in soliciting funds for low-interest loans from churches, religious orders and even private individuals.

The US HUD report concludes that "the idea of a community land trust directed to low-income residents may be one of those rare ideas that transcends local political labels of 'liberal' and 'conservative.' All who have been involved with Burlington's experiment agree that the Land Trust will be long-lived and will remain independent, nonprofit, and nonpolitical."

LINKING AFFORDABLE HOUSING AND ENVIRONMENTAL PROTECTION

One of the greatest attractions of the community land trust model is that is inherently flexible. Each land trust writes its own by-laws and defines its own goals, priorities and structure. (Within this diversity, however, are characteristics common to all CLTs—see Appendix 3). It is precisely because of this flexibility that the CLT model can link affordable housing with environmental protection.

Because communities vary, CLTs vary both in the emphasis that they place on specific issues and interest and in the strategies and techniques that they use to realize their goals. CLTs in rural areas are working to provide access to land and decent housing for low-income people, to preserve family farms and farmland, to facilitate sound, long-term forest management. Urban CLTs have formed to combat speculation and gentrification, to preserve and develop low- and moderate-income housing, and to maintain useful urban open spaces (ICE, 1982).

There are now approximately 125 CLTs in both rural and urban areas in the United States. "Land-use planning and environmental protection, placed in the hands of the CLTs, would . . . seem to satisfy those critics of traditional restrictions on use who decry the confiscatory nature of zoning and other police-power regulations, and who fear the centralization of land-use planning in higher and higher units of government." The CLT represents a means of "returning the power to plan and develop to local hands" (Davis, 1984).

The primary limitation of the CLT from a sustainable development perspective is that it makes little impact on the large concentrations of property and power which now abound in North America, and thus does not effect the pattern of landownership and institutional framework of land tenure outside of the CLT's domain. Yet it is conceivable that CLTs could have a significant impact on sustainable development. For CLTs to have an appreciable effect on sustainable development, public powers and public funds will be required for land trust expansion. Several geographically decentralized communities or "units" might be quite different in size, structure, and even purpose, but could all be strengthened under the umbrella of a single regional land trust (see Appendix 4).

Below are 10 kinds of partnerships governments can form with CLTs for mutual benefit:

- Several CLTs have been established with strong initiative and support from local governments (e.g., Atlanta, Burlington, New York, Syracuse).
- Several municipalities have allocated funds to CLT programs.
- Some municipalities have allocated city-owned lands to CLTs.
- Some municipalities link certain development programs (e.g., housing rehabilitation loans, programs for new housing construction, mortgage assistance with public funds) with a local CLT.
- Some municipalities use "linkage" programs to foster CLT development.
- Municipal zoning powers have been used to negotiate commitments from developers to make donations of land and to build affordable housing for a CLT.
- CLTs can be viewed as a way to assemble and develop land for commercial and industrial use and to support locally owned business as well as skills training through their construction activity.
- Municipalities can place publicly owned lands, such as bike paths, conservation areas, and community gardens, under the care and management of a CLT.
- Housing finance agencies are increasingly interested in making financing available for housing on CLT land.
- Legislatures have acted to appropriate special funds to finance acquisitions by land trusts.

As these examples indicate, supporting legislation combined with programs of start-up funding and technical assistance from provincial and federal governments could enable community land trusts to flourish. With initiative from Canada Mortgage and Housing Corporation, Canada could lead the world in demonstrating that meeting human needs and protecting the environment can be compatible goals—that sustainable development can indeed benefit people as well as the environment. This kind of leadership could also create a marketable knowledge-based export industry as other countries look

to Canada for expertise in integrating environment and development. With such leadership and support, community land trusts could become an effective, decentralized, locally controlled and politically popular way to implement sustainable urban development.

NOTES

1. Newman uses the term Permaculture™ rather than "sustainable agriculture." Permaculture is a term trademarked by Bill Mollison, whose work is better known in Australia, Newman's homeland. Permaculture villages are alternative rural settlements employing the insights of bioregionalism and sustainable agriculture on the management of the rural environment.

2. This distinction between ownership and use is not itself new or radical. Much of the commercial land in London and New York City is leased by the actual users under long-term (usually 99 years) leases. What is different about the community land trust is that the ownership, and therefore the power to determine ultimately how the land is used, is vested, through the Trust, in the community as a whole (Morehouse, 1989).

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RESOURCE INFORMATION

The Institute for Community Economics
57 School Street
Springfield, MA 0115-1331
U.S.A.
(413) 746-8660

The Institute for Community Economics is a non-profit organization providing technical and financial assistance to community land trusts, limited-equity housing co-ops, community loan funds, and other grassroots organizations, as well as providing information and educational material to the general public. The Institute also publishes a quarterly journal, *Community Economics*.

APPENDIX 1

ROOTS OF THE COMMUNITY LAND TRUST*

In its basic approach, the CLT model stems from the ancient view of the earth as something naturally given, or God-given, to all people in common—something which, like the air above it, can never be owned in any absolute sense by individuals. The principle that people can never own land absolutely and the recognition of the duality of individual and community interests in land are deeply embedded in the Judeo-Christian tradition, as they are in other major religious and ethical traditions. In this sense the CLT is a deeply traditional approach to land.

In its approach to the economic significance of land, the CLT model draws on the work of Henry George, the author of the influential book *Progress and Poverty* (published in 1879). George reaffirmed the principle that land is a common trust, and traced the origin of much of the poverty and social distress of his times to the maldistribution of land and the failure of society to claim its economic value. To remedy the situation—to make land available to all, and to retain for the community the value which it created through municipal development and services—George proposed having a single tax on the full value of the land (known as site value, or land value, taxation), and no tax on private improvements. This 'single tax,' as it was commonly known, is comparable to the lease fees charged by the CLTs, although most CLTs take other factors into account along with the value of the land in determining their fees.

As a believer in the free market of Adam Smith, George had no quarrel with the individual title to land and did not advocate confiscation or nationalization. Instead, he called for recognition that landowners were actually tenants on a commons belonging to a human society as a whole and should pay a fair rent on the value of their land to society. This rent could be collected in the form of a land tax falling only on unearned income which landowners would be able to realize by the mere fact of ownership rather than on any additional value they might create through their own efforts. Thus, hoarders and speculators would be punished while small farmers and entrepreneurs who used their holdings carefully and productively would be rewarded. Over time, George believed, the land tax would result in resources being redistributed to those who could use them best. The tax burden of hard-working people would be significantly less, income levels would rise among the formerly disadvantaged, and the problem of unemployment would lessen.**

Based on George's analysis and proposals, a number of "single tax enclaves" or communities of "economic rent" were established in Alabama, New Jersey, Delaware, Massachusetts and other states. In the wake of the Depression, the social philosopher Ralph Borsodi (who is sometimes called

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*This section is drawn primarily from ICE, 1982.

***Progress and Poverty* was a publishing sensation. It was translated into all the major European languages and became a worldwide bestseller. George's ideas gained a following among millions of ordinary people and were praised by as diverse a group of intellectuals as ever agreed on a single issue. Tolstoy read *Progress and Poverty* to his peasant workers and urged the czar to give serious attention to what George had said. Sun Yat Sen, the future father of the Chinese republic, vowed to make George's teachings the basis of his program of reform. George himself became an important American political figure, and came close to being elected mayor or New York City (Ferrell, 1982).

the grandfather of the CLT) assisted in the development of several new communities based in part on Georgist principles. Some of these single tax communities are still flourishing, although in several instances an element of speculative gain has been allowed to creep into their methods of operation.

As a practical tool, the CLT has been influenced or inspired by more recent land reform policies in several other countries. Vinoba Bhave, a close co-worker and successor to Mahatma Gandhi, initiated a voluntary land-gift program in India known as Bhoodan. In a series of long walks across the Indian countryside, Bhave and his companions collected gifts of land from landowners, and distributed that land to landless peasants. When it became clear that many of the new landowners soon lost their land—to creditors or the temptations of cash offers—the program was changed to Gramdan, or village gift. A Gramdan village acts as trustee of the lands, which are made available for individual use but not individual ownership.

The Jewish National Fund of Israel is a land trust on a national scale. Founded in 1901, the JNF is a nongovernmental public institution which predated the founding of the state of Israel. It currently owns most of the productive land of Israel and considerable additional land in both rural and urban ideas. The land is held and leased out for use. Improvements on the land may be owned by the leaseholders.

In Mexico and Tanzania, government land reform policies have given trusteeship of local land to village communities, which grant use to individuals but retain a degree of control, so that these individuals cannot sell the land and wealthy people cannot reacquire large landholdings.

In a large number of Western countries, local and regional governments have created land banks. A land bank is a public agency which acquires land, holds the land for varying lengths of time, and sells or leases the land to private or public parties for a variety of purposes. The technique had developed largely as a response to the perceived failure of planning strategies and land-use controls in regulating metropolitan growth, and in anticipation of the problems often associated with the rapid increases in land prices which result from development. Metropolitan land banking has been successfully used in Sweden since 1904, and in a number of other countries as well. In recent years rural land banks have been established in the Canadian provinces of Saskatchewan and Prince Edward Island to purchase and lease farmland in an effort to preserve family farming and reverse the trend toward absentee ownership of rural land. In the United States, public land banking has remained a relatively undeveloped technique, despite early programs of public acquisition and planning which played important roles in the development of such cities as Washington, Austin, Savannah, Detroit and Chicago. Currently, public land banks in Puerto Rico, New York State, and Massachusetts are operating with an emphasis on job creation and development.

APPENDIX 2

COMPARISONS AND CONFUSIONS*

As stated in the text, the community land trust model bears some resemblance not only to certain of its forerunners but also to a variety of other contemporary landholding entities. In some instances the apparent similarities are deceiving. In other instances they are real and significant. In any event, it is important to understand the similarities and differences, and to avoid the likely confusion.

Real estate trusts. A CLT is a trust in the basic sense that it holds land in trust for the entire community, but it is not a trust in the traditional legal sense. A CLT is a non-profit corporation. A legal land trust or real estate trust, on the other hand, is a private entity with private purposes. It is a means of holding property for the good of certain specified "beneficiaries," and it is controlled by specific trustees. The legal land trust is a closed arrangement, while the CLT is open and democratic.

Real estate trusts may be relatively small, established to manage a fixed amount of property for the benefit of a very limited number of individuals; or, they may be quite large and commercially active. In the past few years, an increasing number of private land trusts (legal trusts and other legal entities) have been created by major financial institutions turning to land as a sound investment, and by private developers seeking to reduce the sales price of their properties, increase sales, and to realize long-term speculative gains.

Communes. Commune memberships are not open to all members of the larger community in which are established, and they are not designed to relate to the various needs and interests of these communities. A CLT is not a commune. Communes, or international communities, may lease land from a CLT, or choose to put the land they already own into a CLT; but the two are not synonymous.

Conservancy trusts. Conservancy or land conservation trusts seek to prevent the development of certain undeveloped lands so that their natural characteristics can be preserved. They provide maximum protection for particularly distinctive or fragile natural areas and ecosystems. Conservancy trusts normally withhold their lands from all human use except for limited scientific or educational field study and some carefully regulated recreational use. CLTs, on the other hand, are usually concerned with housing, agriculture, economic development and other basic human land uses.

Limited equity co-operatives. As legal entities, co-operatives differ from non-profit corporations in that co-op members each own an equity share of the co-op's assets, while the assets of a non-profit corporation cannot be held by or distributed to its (individual) members. In a housing co-operative, each member owns a share of the value of the co-op's building and land; in a CLT, members and leaseholders never have personal ownership of the corporation's land. Both organizations are democratically structured, with boards elected by their members.

The CLT model can be creatively complemented by interaction with existing limited equity co-operatives, conservancy trusts, intentional communities and co-operative settlements.

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*Most of this section is taken directly from ICE, 1982.

APPENDIX 3

UNIFYING GUIDELINES FOR CLTS

In the spirit of Rochdale Principles, which have strengthened and unified the co-operative movement, the Institute for Community Economics has proposed the following guidelines for CLTs (ICE, 1987):

A community land trust is a non-profit corporation created to acquire and hold land for the benefit of a local community and to provide permanent access to land and housing at affordable rates for low- and moderate-income people. It is committed to:

1. a democratic structure which includes both community and land trust residents in its board of directors;

2. meeting needs of those most excluded and oppressed by prevailing and speculative real estate markets;

3. an active ongoing development program which attempts to meet other community needs;

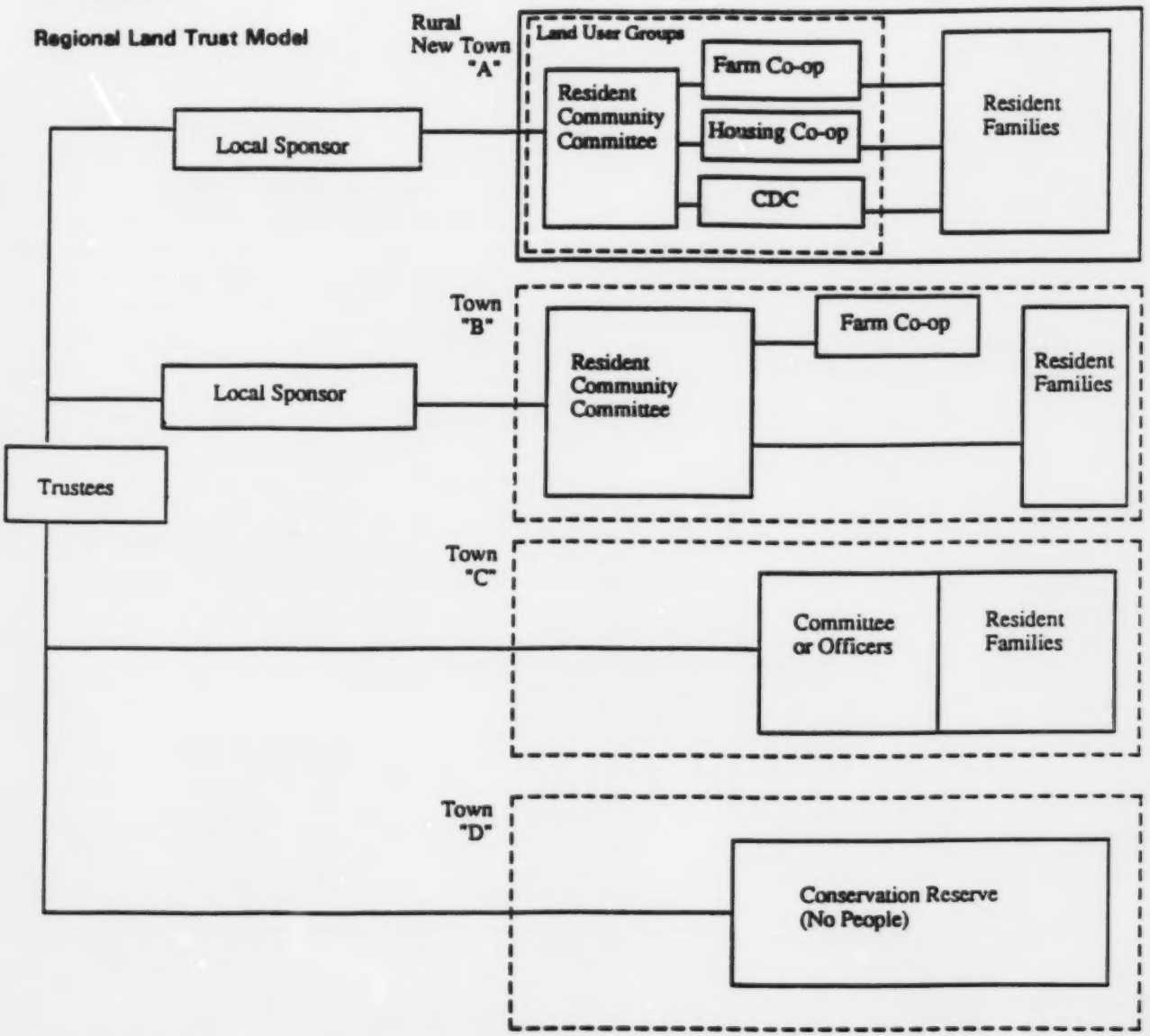
4. providing ownership and management opportunities for residents;

5. shared equity based on property value created by residents as well as that created by the community at large;

6. a continuing program of member and public education.

APPENDIX 4

Regional Land Trust Model



This chart illustrates how several geographically decentralized communities or "units" might be quite different in size, structure, and purpose, but could all be strengthened under the umbrella of a single regional land trust.

Town "A" is the largest and has been chartered by the state as a municipality. Each of the other units functions within the context of a different local town, city, or county government. In Town "B," the land trust community is probably a bit smaller, with residents leasing directly from the trust. Town "C" is a more simply structured unit, a resident or homesteader community without any co-operative economic institutions of its own. And in Town "D," the trustees administer a tract for conservation purposes, without any residents at all.

From: International Independence Institute, ***The Community Land Trust: A Guide to a New Model for Land Tenure in America*** (Cambridge, Mass.: Center for Community Economic Development, 1972).